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Med Chi in Annapolis: 1989 Legislative Issue

January 1989

MMJ

Maryland Medical Journal

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January 1989

Maryland Medical Journal

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Cover photo by Tom Darden: From left, Thomas V. Mike Miller, Jr., President of the Maryland Senate; Raymond M. Yow MD, CEO Medical Mutual Liability Insurance Society of Maryland; Governor William Donald Schaefer; Michael R. Dobridge MD, President of Med Chi; and Melvin A. Steinberg, Lt. Governor of the State of Maryland, at the announcement of a one-time 10 percent discount to all Med Mutual policyholders who renew their policies in 1989. The Governor cited the Lt. Governor, the leadership of the General Assembly, and Med Chi Faculty who worked tirelessly and creatively to provide Maryland physicians significant relief in the area of liability insurance.

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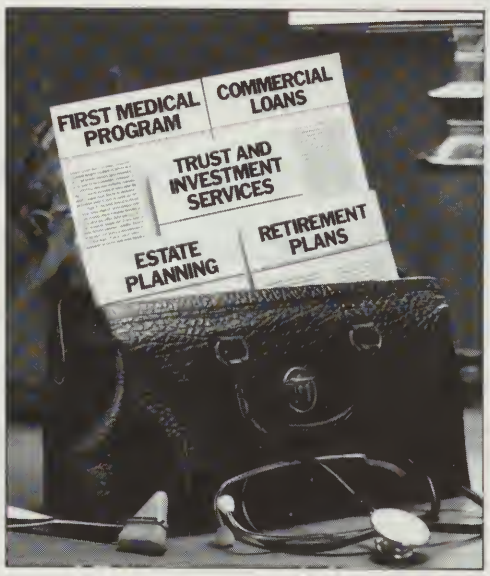
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JANUARY 1989
CONSENT FORMS FOR INFLUENZA AND PNEUMOCOCCAL VACCINE

Physicians have to provide adequate information to patients prior to administration of influenza and pneumococcal vaccines. The consent forms used in public health clinics may be useful in ensuring all pertinent facts are told to the patient prior to the administration of the vaccines.

IMPORTANT INFORMATION ABOUT PNEUMOCOCCAL DISEASE AND PNEUMOCOCCAL POLYSACCHARIDE VACCINE

Please read this carefully

PNEUMOCOCCAL
3/1/86

WHAT IS PNEUMOCOCCAL DISEASE? *Streptococcus pneumoniae* is a bacterium that causes much illness and death in the United States each year. This bacterium, also called the Pneumococcus, can cause serious infections of the lungs (pneumonia), the bloodstream (bacteremia), and the covering of the brain (meningitis). About 5 persons out of every 100 who get pneumococcal pneumonia, about 20 out of every 100 who get bacteremia, and about 30 out of every 100 who get meningitis die of these infections. Anyone can get pneumococcal disease; however, persons over 65 years of age and persons of any age who have special types of health problems have the greatest risk.

People are more likely to die from pneumococcal disease if they have problems such as alcoholism, heart or lung disease, kidney failure, diabetes, or certain types of cancer. Older persons as a group are also more likely to die from pneumococcal disease. Forty out of every 100 persons who have these special health problems die when they develop pneumococcal bacteremia and 55 out of 100 with these special health problems die if they get pneumococcal meningitis. The high risk of death occurs in spite of treatment with drugs like penicillin. Because of the risk of serious complications from pneumococcal infection, vaccination is recommended for older persons and for children and adults with special health problems.

PNEUMOCOCCAL POLYSACCHARIDE VACCINE:
The pneumococcal polysaccharide vaccine contains material from the 23 types of pneumococcal bacteria that cause 87 percent of pneumococcal bacteremias. Most healthy adults who receive the vaccine develop protection against most or all of these types of pneumococcus bacteria 2-3 weeks after vaccination. Older persons and those with some long-term illnesses may not respond as well or at all. Children under 2 years of age are also not protected by the vaccine. How long the protection lasts is not known at this time; however, the vaccine should be given only once. The vaccine is given by injection.

WHO SHOULD RECEIVE PNEUMOCOCCAL POLYSACCHARIDE VACCINE?
Vaccination is recommended for the following:

Adults

1. Adults with long-term illnesses—especially those involving the heart or lungs.

2. Adults with long-term health problems that are associated with a high risk of getting serious pneumococcal infections. These include adults who have alcoholism, diabetes, kidney failure, abnormal function or removal of the spleen, Hodgkin's disease, multiple myeloma, cirrhosis, leaks of cerebrospinal fluid (CSF, the fluid surrounding the brain and spinal cord), or who have diseases that lower the body's resistance to infections or are taking drugs that lower the body's resistance to infections.

(PLEASE READ OTHER SIDE)

3. Older adults, especially those 65 years of age and older, who are otherwise healthy.

Children
Children 2 years of age and older with long-term illnesses that are associated with a high risk of getting serious pneumococcal infections. This includes children whose spleens have been surgically removed, as well as those who have sickle cell disease, nephrotic syndrome (a type of kidney disease), or CSF leaks, or who have diseases that lower the body's resistance to infections or are taking drugs that lower the body's resistance to infections.

Note
Frequent diseases of the upper respiratory system, including infections of the ear or sinuses, in children who are otherwise healthy, are *not* reasons to use this vaccine.

General Considerations
Although this vaccine may not be as effective in some persons, especially those who do not have normal resistance to infections, vaccination is still recommended for such persons because they are at high risk of developing severe disease.

POSSIBLE SIDE EFFECTS FROM THE VACCINE:
About half of those who are given pneumococcal vaccine have very mild side effects, such as redness and pain at the injection site. Less than 1 percent of those given pneumococcal vaccine may develop fever, muscle aches, and severe local reactions. Serious side effects, such as severe allergic reactions, have rarely been reported—about 5 in every million doses given. As with any drug or vaccine, there is a rare possibility that allergic or more serious reactions or even death could occur.

REVACCINATION: Pneumococcal vaccine should be given *only once* to adults; no "booster" dose is recommended. It is not yet known whether children need to be revaccinated. Allergic reactions have occurred among persons given second doses and are thought to be caused by existing immunity from the first dose. Persons who received the older pneumococcal vaccine that included only 14 types of pneumococcal bacteria do not need to receive this new vaccine since the slight increase in effectiveness does not outweigh the increased risk of reactions. Complete records of vaccination should be kept to avoid giving the vaccine more than once.

PREGNANCY: The safety of pneumococcal vaccine for pregnant women has not been studied. It should not be given to healthy pregnant women. Women who are at high risk of pneumococcal disease and who are candidates for pneumococcal vaccine ideally should be vaccinated before pregnancy.

QUESTIONS: If you have any questions about pneumococcal disease or pneumococcal polysaccharide vaccine, please ask now or call your doctor or health department before you sign this form.

REACTIONS: If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic during the 4 weeks after receiving the vaccine, please report it to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

I have read the information on this form about pneumococcal disease and pneumococcal polysaccharide vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of the pneumococcal vaccine and request that it be given to me or to the person named below for whom I am authorized to make this request.

PNEUMOCOCCAL
3/1/86

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)				
Last Name	First Name	MI	Birthdate	Age
Address				
City	County		State	Zip
X				
Signature of person to receive vaccine or person authorized to make the request.				Date

FOR CLINIC USE
Clinic Ident.
Date Vaccinated
Manuf and Lot No.
Site of injection

FOR DATA PROCESSING USE ONLY (OPTIONAL)

VACCINE HISTORY: PLACE CHECK ☐ IN BOX IF HISTORY PREVIOUSLY SUBMITTED

DTP:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	MEASLES:	m/d/yr	MUMPS:	m/d/yr
POLIO:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	RUBELLA:	m/d/yr	HAEMOPHILUS b:	m/d/yr

Certain medical staff who provide care to high-risk patients in health-care facilities should be vaccinated, to reduce the possibility that these patients might catch the flu when receiving medical care: Family members or others who provide care to high-risk persons at home should also be vaccinated. The possibility for spreading the flu to high-risk persons can be reduced by vaccinating:

- Doctors, nurses, and others who have extensive contact with high-risk patients, such as specialists and staff of intensive care units.
- Individuals who provide care to high-risk persons at home, such as visiting nurses and volunteers, as well as all household members, including children, whether or not they are providers of care.

In addition, a flu shot should be given to anyone who wishes to reduce his/her chances of catching the flu.

INFLUENZA VACCINE: The viruses that cause flu frequently change, so people who have been infected or given a flu shot in previous years may become infected with a new strain. Because of this, and because any immunity produced by the flu shot will possibly decrease in the year after vaccination, persons in the high-risk groups listed above should be vaccinated every year. This year's flu shot contains the strains A/Taiwan/1/86, A/Sichuan/2/87, and B/Victoria/2/87 to provide immunity against the types of flu which have been circulating in the past year and are thought to be most likely to occur in the United States next winter. All the viruses in the vaccine are killed so that they cannot infect anyone. Vaccine will begin to provide its protective effect after about one or two weeks, and immunity may decrease, on average, after several months. Flu shots will not protect all persons who get them against the flu. They also will not protect against other illnesses that resemble the flu.

DOSAGE: Only a single flu shot is needed each season for persons older than 12 years, but children 12 years or less may need a second shot after about a month. The doctor or nurse giving the flu shot will discuss this with parents or guardians. Children should be given only vaccine that has been chemically treated during manufacture ("split virus") to reduce chances of any side effects. Split-virus vaccine can also be used by adults.

POSSIBLE SIDE EFFECTS FROM THE VACCINE: Most people have no side effects from recent influenza vaccines. Flu shots are given by injection, usually into a muscle of the upper arm. This may cause soreness for a day or two at the injection site and occasionally may also cause a fever or achiness for one or two days. Unlike 1976 swine flu vaccine, recent flu shots have not been linked to the paralytic illness Guillain Barre Syndrome. As is the case with most drugs or vaccines, there is a possibility that allergic or more serious reactions, or even death, could occur with the flu shot.

WARNING-SOME PEOPLE SHOULD CHECK WITH A DOCTOR BEFORE TAKING INFLUENZA VACCINE:

- Persons who should not be given the flu shot include those with an allergy to eggs that causes dangerous reactions if they eat eggs.
- Anyone who has ever been paralyzed with Guillain Barre Syndrome, as well as women who might be or are pregnant, should seek advice from their doctor about special risks that might exist in their cases.
- Persons who are ill and have a fever should delay vaccination until the fever and other temporary symptoms have gone.

QUESTIONS: If you have any questions about influenza or influenza vaccination, please ask now or call your doctor before requesting the vaccine.

REACTIONS: If any receiving influenza vaccine gets sick and visits a doctor, hospital or clinic in the 4-weeks after vaccination, please report this to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

FOR CLINIC USE

Influenza 7/1/88

I have read the information on this form about influenza and influenza vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of influenza vaccine and request that the vaccine be given to me or to the person named below for whom I am authorized to make this request.

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)

FOR CLINIC USE

Name (Please Print) Last First Initial _____ Birthdate _____ Age _____

Clinic Ident _____

Address _____ City _____

Date Vaccinated _____

County _____ State _____ Zip _____

Manufacturer and Lot No _____

Site of Injection _____

X _____ _____

Signature of person to receive vaccine (or person authorized to make the request) Date

Chronic Disease Yes ☐ No ☐

IMPORTANT INFORMATION ABOUT INFLUENZA AND INFLUENZA VACCINE, 1988 - 1989

PLEASE READ THIS CAREFULLY

WHAT IS INFLUENZA ("FLU")? Influenza (or "flu") is a viral infection of the nose, throat, bronchial tubes, and lungs that can make someone of any age ill. Usually the flu occurs in the United States from about November to April. If you get the flu, you usually have fever, chills, cough, and soreness and aching in your back, arms, and legs. Although most people are ill for only a few days, some persons have a much more serious illness and may need to go to the hospital. On average, thousands of people die each year in the United States from the flu or related complications.

WHO SHOULD GET INFLUENZA VACCINE? Because influenza is usually mild and most people recover fully, health officials emphasize the use of vaccine for the elderly and people with other health problems most likely to be seriously ill or to die from the flu or its complications. For example, people who after even light exercise become short of breath due to diseases affecting their heart or lungs, and people who have low resistance to infections, are likely to be more seriously affected by the flu. Thus, the following groups are at highest risk for serious illness with the flu and have been particularly recommended to receive vaccine:

- Adults and children with long-term heart or lung problems which caused them to see a doctor regularly, or to be admitted to a hospital for care during the past year.
- Residents of nursing homes, and other institutions housing patients of any age who have serious long-term health problems.

Other groups who are at moderately increased risk for serious illness with the flu and who public health authorities feel should be vaccinated if possible are:

- Healthy people over 65 years of age.
- People of any age who during the past year have regularly seen a doctor or have been admitted to a hospital for treatment for kidney disease, cystic fibrosis, diabetes, anemia ("low blood"), or severe asthma.
- People who have a type of cancer or immunological disorder (or use certain types of medicines) that lowers the body's normal resistance to infections.
- Children and teenagers (6 months through 18 years of age) on long-term treatment with aspirin who, if they catch the flu, may be at risk of getting Reye syndrome (a childhood disease that causes coma, liver damage, and death).

(PLEASE READ OTHER SIDE)

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PreCare



Barry Holniker for Sinai Hospital

One of the latest volunteer efforts among Maryland physicians is "PreCare" (Physician Referral for Elder Care), a statewide telephone referral service designed to provide Medicare enrollees with names of physicians who accept Medicare assignment. PreCare is sponsored by Med Chi, the Component Medical Societies, and the Maryland Office on Aging. Governor Schaefer has endorsed the program saying that it "actively demonstrates the willingness and capability of the private and public sectors joining together to help our Maryland citizens."

PreCare was developed in an effort to provide every senior citizen in Maryland with access to affordable, quality health care. Governor Schaefer applauded this endeavor stating, "This kind of cooperative spirit is exactly what leadership is all about: concern for our citizens and the 'get it done' attitude."

PreCare operates through a network of local telephone numbers for each county and an 800 number at Med Chi, and it will be available to any person eligible for Medicare in Maryland regardless of income, financial assets, or medical condition. PreCare works in conjunction with "Gateway," a county based information network established by the Maryland Office on Aging. Gateway representatives currently provide information on services available to seniors as well as names of physicians who accept Medicare assignment. Med Chi has issued PreCare county referral numbers to each Gateway office in addition to promoting the new service to the media, county hospitals, senior centers, and participating physicians' offices.

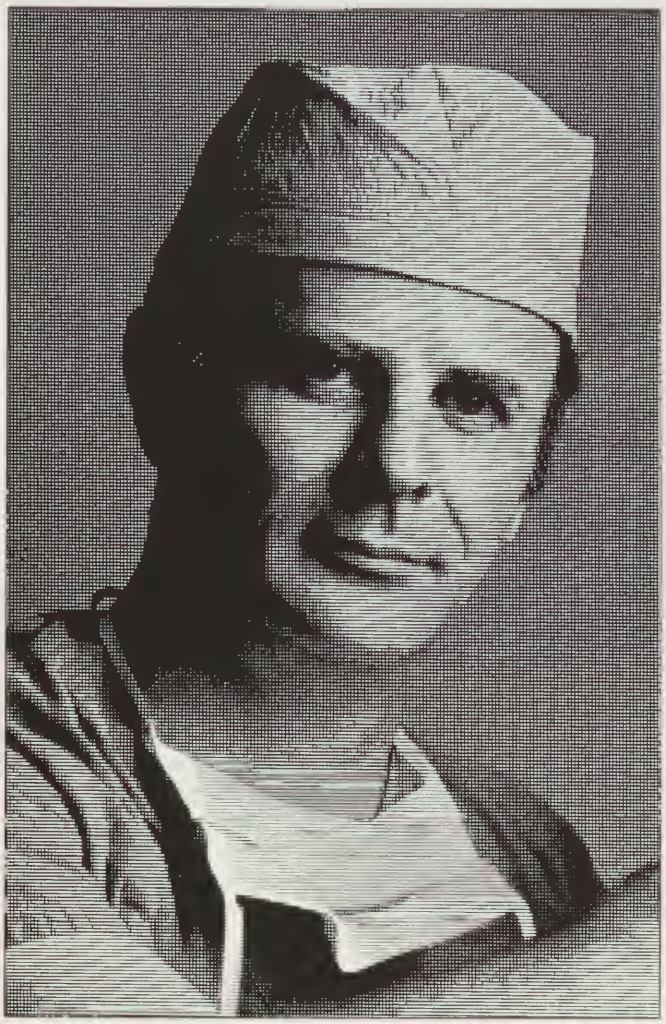
Medicare enrollees using PreCare will discover that this program is readily accessible and very simple to use. Any senior in Maryland who requires a physician accepting Medicare assignment simply calls a local PreCare or Gateway number. A PreCare representative will provide the senior with one or more physicians in his or her area who accept Medicare assignment. The senior arranges an appointment with the physician of his/her own choice who will provide care on an assignment basis. Seniors who reside in counties without a local telephone referral number or those experiencing any problems with the program are encouraged to call Med Chi at 1-800-492-1056.

Governor Schaefer has expressed his congratulations to the "thousands of Maryland physicians who are participating in this program and who continue to uphold the highest traditions of our valued and caring profession of medicine in Maryland." Med Chi members and those participating in the PreCare program can be proud of the excellent service their joint effort is bringing to Maryland's senior citizens.

PRECARE

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Community Health and Holiday Sharing Programs

For the past two years (1986-1987) the Allegany County Auxiliary Community Health Program has been concerned with the needs of the children and the elderly of our community. We raised more than $1,000 to entertain with a Christmas party for 26 underprivileged and abused children. In this joyful project, Santa Claus (Dr. Francisco Reyes) and children of the Auxiliary presented the children with toys, clothes, and books.

We donated toys to the local Christmas project, "Toys for Happiness," which collects toys for needy children. This past year the Red Cross was the recipient of children's clothing collected from local stores by Auxilians.

On Christmas Day we visited four nursing homes and took fruit baskets along with providing entertainment.

A videotape on Teenage Pregnancy was donated to the Board of Education.

In another successful combination of efforts, the Allegany County Medical Society and the Medical Auxiliary celebrated the Cumberland Bicentennial with a Health Fair. Forty members were involved in this project, and eighteen health-realted organizations participated, including the three hospitals of the area, the Red Cross, the Health Department, the Cancer Society, and the Heart Association. The Medical Society and the Auxiliary had a booth with a display of the history of our organizations.

Combined with the Board of Education, every school in the county displayed posters on teenagers' problems: suicide, alcohol, drug abuse, teen pregnancy, drinking and driving, and child abuse.

The Fair, located in downtown Cumberland, was visited by numerous people.

ADELA REYES
President
Allegany County Medical Auxiliary

The Holiday Sharing Program, in operation in Anne Arundel County since 1980, matches donors with needy families at Thanksgiving and Christmas. Fifteen members of the Auxiliary work at the Department of Social Serivces (DSS) in Annapolis putting in 500 hours of service between August and December 24.

The DSS provides the Auxiliary with a large room, telephone, paper and printing, and a computer printout of all AFDC families in Anne Arundel County. These families consist mainly of single mothers who are receiving funds from DSS and have little or no extra for the holidays. The computer printout records all families helped and by whom. To clear names, we work very closely with other helping agencies, for example, the Salvation Army, the St. Vincent de Paul Society, and other service organizations. This helps us avoid duplication of effort and allows for more fair distribution of donations.

Our donors are businesses, churches, government agencies, individuals, organizations, and schools. Most of our donors provide food, clothing, and toys, and take care of all the shopping and delivering of these items to the recipients.

There are many highlights to our program each year. Congressman Tom McMillan holds an annual party and asks all guests to bring a new wrapped toy, which is donated to Holiday Sharing. Several high schools have canned food drives, which result in hundreds of cans of food being donated to the emergency food pantries in our county. Staff at our two county hospitals have become very involved in our project and sponsor many families.

A great deal of positive publicity is generated by this project. As many as fifteen related articles appear each year in our two local newspapers, and each time the Auxiliary is mentioned as being the moving force behind the project.

The Holiday Sharing Program has grown over the years. Last year we coordinated help to almost 2,500 families. In 1987 we received almost $6,000, and these donations were used for gifts for foster children and many senior citizens. We anticipate that the 1988 season will prove to have been equally successful.

IMELDA C. HERZINGER, Chairman
Holiday Sharing Project
Anne Arundel County Auxiliary

Auxililary to the Medical and Chirurgical Faculty of the State of Maryland. Mrs. Eva Edmonds, President; Mrs. Betty J. Molz, Editor.

Doctor Planning to Relocate?

If you are moving or planning to, let us know so that you won't miss a single issue of Maryland Medical Journal. Fill out the form below and mail it to:

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Executive Director's Newsletter

January 1989

PHYSICIAN PAYMENT REVIEW COMMISSION SURVEY

The Physician Payment Review Commission is conducting a survey to obtain data on practice costs, Medicare assignment patterns, the use of certain diagnostic services, and the allocation of physicians' time. Results of the survey will be used to develop recommendations on Medicare reimbursement and other issues, and will be included in the Commission's March 1989 report to Congress. The survey will enable physicians to have direct input into the process of reforming the Medicare program. A random sample of approximately 6,000 physicians will be selected to participate in this study to be conducted by Westat, Inc. Confidentiality of respondents will be strictly protected.

MEDICARE REIMBURSEMENT FOR RADIOLOGY SERVICES

Beginning January 1, 1989, Medicare reimbursement for radiology services furnished or supervised by American Board of Radiology (ABR)-certified or ABR-eligible physicians or by those for whom radiology services account for at least 50% of their total Medicare submitted charges will be based on a fee schedule. The radiology fee schedule will apply to all CPT4/HCPC procedure codes for diagnostic and therapeutic radiology services, nuclear medicine, and certain radiation therapy services.

BC/BS MEDCASH

Blue Cross and Blue Shield of Maryland recently began test marketing MEDCASH, a credit card to be used strictly for medical and other health expenses, in the Baltimore area. Over 300 health professionals have agreed to accept the card for payment of services not covered by health insurance. Card users qualify for an initial credit line ranging form $1,000 to $5,000 and can seek extended levels of credit in case of emergency by calling an 800 number. BC/BS plans to make the MedCash Card available to Blues organizations in other areas of the country.

WOMEN IN MEDICINE COMMITTEE

A new Ad-Hoc Committee on Women in Medicine recently was organized and will address issues of concern to women physicians such as leadership development for women, day care programs, salary discrimination and recruitment of women into organized medicine. Margaret T. Snow MD was appointed as Chairman. For more information regarding this committee, contact Michelle Burke, staff representative, at 539-0872 ext 305 or 1-800-492-1056.

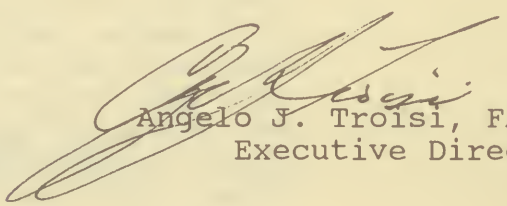
KRAUSE PORTRAIT

A portrait of Louis A. Krause MD was donated to the Faculty by the Board of Trustees of the former Lutheran Hospital of Baltimore. Painted by Betty Wells in 1963 on the occasion of Dr. Krause's retirement from the hospital, the portrait will be displayed at the entrance to the Faculty's History of Medicine Room.

AWARDS

The National Commission on Correctional Health Care recently presented the Faculty with a recognition award "For its concern that incarcerated adults and juveniles receive adequate medical care and its participation in the nationwide accreditation program for prisons, jails and juvenile facilities." Med-Chi thanks all component societies who contributed to the receipt of this award by helping to improve health services in Maryland's jails, prisons and juvenile facilities.

Med-Chi's "Women In Medicine" exhibit was recently honored by The Southern Medical Association Auxiliary with the Medical Heritage (Research and Romance) Award for the Best Statewide Exhibit at the Southern Medical Convention in New Orleans.



Angelo J. Troisi, FACHE
Executive Director

M M P A C



YOUR MARYLAND MEDICAL POLITICAL ACTION COMMITTEE

AT WORK IN 1988*

The following is a list of statewide elected officials who have requested and received contributions from MMPAC during 1988. The list is provided to show the membership how evenly contributions are distributed across the state. Consequently, money received from physicians generally goes back into their communities in the form of these contributions.

In 1990 a statewide election will be held in which all statewide offices will be elected. Now is the time for physicians to send in their PAC dues so that we may begin building our account to get ready for the 1990 elections.

You may still ask, "What has Med-Chi and MMPAC done for me lately?"

- physician efforts in Tort Reform have had a dramatic impact on the rise in medical malpractice premiums. In fact, just last month, Med-Mutual announced a 10% dividend, the first one of its kind in the history of the company.

- physician efforts have stopped Mandated Medicare Assignment for the last two legislative sessions. However, this fight will continue during the 1989 Maryland General Assembly.

- physician efforts have retained control of the peer review and credentialing process in Maryland. After a long battle with attorneys and citizen-consumer organizations.

- physician efforts have raised the standard of evidence necessary to find a physician in violation of the Medical Practice Act from a preponderance of the evidence to clear and convincing evidence.

- physician efforts were successful in prohibiting optometrists from enlarging their scope of practice to include the administration of topical ocular agents.

MARYLAND MEDICAL POLITICAL ACTION COMMITTEE
1211 CATHEDRAL STREET BALTIMORE, MD 21201 (301) 539-0872
CALL TOLL FREE IN MARYLAND 1- 800-492-1056

• physician efforts have fought and blunted virtually every effort to infringe on your independence and autonomy as practitioners of the healing arts.

All of you have recently received your dues notices from Med-Chi. Although some of us may not like to admit it, there is a growing trend to have decisions about health care made in the political process. It is important that our voices be heard and our arguments be presented in the political forum. Please help us do that.

Allegany County
Senator John Bambacus
Senator Victor Cushwa
Delegate George Edwards
Delegate Kevin Kelly
Delegate Casper Taylor
Delegate Betty Workman

Anne Arundel County
Senator Phil Jimeno
Senator Michael Wagner
Delegate Michael Busch
Delegate Charles Kolodziejski
Delegate Marsha Perry

Baltimore City
Senator Clarence Blount
Senator John Pica
Delegate Anthony DiPietro
Delegate Ann Marie Doory
Delegate Samuel Rosenberg
Delegate Paul Weisengoff

Baltimore County
Senator F. Vernon Boozer
Senator Thomas Bromwell
Senator Michael Collins
Senator Paula Hollinger
Delegate Joseph Bartenfelder
Delegate William Burgess
Delegate R. Terry Connelly
Delegate Robert Ehrlich
Delegate Donna Felling
Delegate Michael Gisriel
Delegate A. Wade Kach
Delegate Martha Klima
Delegate Lawrence LaMotte
Delegate Farrell Maddox
Delegate Nancy Murphy

Delegate Ellen Sauerbrey
Delegate Michael Weir

Caroline County
Delegate Richard Colburn
Delegate R. Clayton Mitchell, Jr.

Carroll County
Delegate Lawrence LaMotte

Cecil County
Senator William Amoss
Delegate R. Clayton Mitchell, Jr.

Charles County
Delegate Michael Sprague

Dorchester County
Delegate Richard Colburn

Frederick County
Senator John Derr
Delegate Thomas Hattery
Delegate George Littrell

Garrett County
Senator John Bambacus
Delegate George Edwards

Harford County
Senator William Amoss
Delegate Eileen Rehrman

Kent County
Delegate R. Clayton Mitchell, Jr.

Montgomery County
Senator Howard A. Denis
Senator Ida Ruben
Delegate Mary Boergers
Delegate Gene Counihan
Delegate Michael Gordon
Delegate Sheila Hixson

Prince George's County
Senator Thomas V. Mike Miller, Jr.
Senator Thomas O'Reilly
Senator Decatur Trotter
Delegate Mary Conroy
Delegate Ulysses Currie
Delegate Juanita Miller
Delegate James Rosapepe
Delegate Charles Ryan

Queene Anne's County
Delegate R. Clayton Mitchell, Jr.

Talbot County
Delegate Richard Colburn
Delegate R. Clayton Mitchell, Jr.

Washington County
Senator Victor Cushwa
Senator John Derr
Delegate Donald Munson
Delegate Casper Taylor

Wicomico County
Delegate Richard Colburn

*Exact amount of contributions are available through the Maryland Medical Political Action Committee, Gerard Evans, 1211 Cathedral Street, Baltimore, Maryland, 21201 or the State Board of Supervisor of Elections, Annapolis, Maryland, 21401.

Respectfully submitted,

Harold B. Bob, M.D.
Chairman
Maryland Medical Political Action Committee

Quality Practice Digest

LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state.

The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland.

The following are ethical opinions adopted by the Faculty:*

108. SECOND OPINIONS

.01 The patient has a right to choose his physician unless the patient agrees to limit that choice by contract.

.02 When a second opinion is required by an insurance or similar program, both the treating physician and the second physician should explain their respective roles to the patient. The second physician should not actively encourage or induce the patient to change physicians.

.03 Should the patient freely choose to transfer his medical care, the second physician may accept the patient if he so chooses. The treating physician should honor the patient's choice.

.04 Should the second physician disagree with the treating physician's opinion, a third opinion should be suggested. Whatever the outcome, the second physician should strive to communicate with the treating physician. (PEC 6/27/85)

.05 A physician who renders a second surgical opinion may be asked to assist in the surgery. While not in and of itself unethical, the situation presents great opportunity for abuse. Accordingly, a physician rendering a second surgical opinion should only assist in that surgery if no other qualified physician is available. (PEC 11/19/88)

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* Except for the recently adopted Ethical Opinion 108.05, these opinions appear in the supplement to the Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland (November 1985).

507. PAYMENT FOR COMPLETION OF INSURANCE FORMS

.01 Completion of simple insurance claim forms is provided as a service to the patient, without charge. However, in circumstances where a claim requires research, an examination of previous records, etc., it is permissible to make a reasonable charge.

.02 It is appropriate to base these charges on the volume, effort, and time devoted to such activity in his office. It is the physician's prerogative to determine the extent of this service.

.03 Charges for completion of insurance forms for the patient to collect for lost time or hospitalization payment unrelated to hospital bills are appropriate as are charges where information must be abstracted from records for completion of forms. (MC 10/4/61, 2/8/72; P/PRC 6/6/74; Revised PEC 5/7/85)

508. PAYMENT FOR SERVICES RENDERED BY TWO OR MORE PHYSICIANS

.01 When one physician covers for another, only one physician may bill for the services rendered. Double billing is strictly forbidden.

.02 The bill should clearly inform the patient of the exact medical services included in the bill, the date these services were provided, and whether those services were consultative or direct care.

.03 When two or more physicians working in partnership or professional association call on each other for consultation, the medical necessity for such consultation should be clearly documented. If a pattern appears of consultations requested when apparently not medically necessary, peer review action may follow. (P/PRC 12/14/72; Revised PEC 1/24/85)

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Meridian has prepared a referral information kit detailing our facilities and services. In it you will find a digest of our services and information on how you and your patients' families can take advantage of them. Each of our eighteen centers is profiled in a manner structured to aid you in helping your patients and families with selecting a nursing center.

This kit is available without charge to physicians and hospital administrations. To obtain a copy for your office, please call or use the coupon below.

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Organization _____

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- We can develop an automatic download from your system to ours—no manual intervention or re-keying required.

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For more information about our services, please call us at **1-800-543-6311.**

Health Communication Services, Inc.

3111 Northside Avenue, Richmond, VA 23228

Frank J. Ayd, Jr., MD is the first American psychiatrist to receive the Open Mind Award. The award, presented by Queen Fabiola of Belgium, is given to scientists who are receptive to new ideas and have made contributions to the treatment of mental disorders.

A graduate of Loyola College, Baltimore, and the University of Maryland Medical School, Dr. Ayd is emeritus Director of Professional Education and Research at Taylor Manor Hospital, Ellicott City, and Clinical Professor Psychiatry at the West Virginia University Medical Center, Charleston.

• • • • •

James B. Brayton MD has been named chairman of the Department of Pediatrics at Franklin Square Hospital Center. Dr. Brayton, who has been in private practice in Bel Air since 1983, has a medical degree from Tulane University School of Medicine as well as a degree in veterinary medicine from Cornell University College of Veterinary Medicine. He has served as director of the Division of Comparative Medicine at the Johns Hopkins University School of Medicine, medical director of the Children's Comprehensive Care Clinic at The Johns Hopkins Hospital, and associate professor of Pediatrics and Comparative Medicine at the Johns Hopkins University School of Medicine.

• • • • •

Liebe Sokol Diamond MD has been elected president of the Medical and Dental Staff of the James Lawrence Kernan Hospital. Dr. Diamond, a specialist in pediatric orthopaedics, has served on the Kernan medical staff for more than 20 years. Serving with Dr. Diamond are vice-president **Joseph Ciotola MD**, an orthopaedist; and secretary-treasurer **Selvin Passen MD**, a pathologist.

• • • • •

Daniel C. Hardesty MD, Towson, recently was named chairman of the Department of Medicine at Franklin Square Hospital Center. Dr. Hardesty joined the staff at Franklin Square in April 1986 as associate program director for the Internal Medicine Residency Program and was named director of that program in 1987. He is a summa cum laude graduate of the University of Maryland School of Medicine.

• • • • •

Beryl Rosenstein MD of the Hopkins Department of Pediatrics has been named as medical director for Mt. Washington Pediatrtic Hospital, under a collaborative clinical relationship between the hospital and The Johns Hopkins University School of Medicine.

As medical director for Mt. Washington Pediatric Hospital, Dr. Rosenstein is responsible for administrative oversight of clinical operation, clinical teaching affiliations, quality review, program development, and collaborative research. He will continue to serve as associate chairman of the Johns Hopkins Children's Center and associate chairman of the Johns Hopkins School of Medicine. Mt. Washington Pediatric Hopsital is a regional private, not-for-profit pediatric specialty and rehabilitation center with a focus on pulmonary and physical rehabilitation. The hospital serves medically fragile infants, children, and adolescents.

• • • • •

William L. Thomas MD has been named medical director of Franklin Square Hospital Center. Formerly associate propgram director in the Department of Internal Medicine at Geisinger Medical Center in Pennsylvania, Dr. Thomas came to Franklin Square in October 1984 as chairman of the Department of Internal Medicine. He is a graduate of Duke University, did postgraduate training at Columbia University, and received his medical degree from the University of Connecticut.

Area meetings and course announcements are listed each month under *Doctors Take Note*

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The Management of Uncommon Malignancies of the Breast (Part II)

Minimal Breast Cancer

This is a poorly defined condition of early infiltrating breast carcinoma. The size of the tumor must be less than 1 cm. There is 5 percent chance of metastases to the axillary lymph nodes. These patients have 75 percent five-year disease-free survival. Some reports include these patients with in situ carcinomas, which may reflect poorer survival rates. Once the carcinoma becomes infiltrating, it has a more aggressive behavior and should not be given a separate category or added to the in situ carcinoma.

Stage III Breast Cancer

This is locally and/or regionally advanced disease with no clinical or radiological evidence of distant metastases. If the disease can be resected, eliminating the primary and the regional metastases, this should be carried out and followed by adjuvant chemotherapy with or without hormonal therapy. On the other hand, if the disease is extremely advanced locally and/or regionally, preoperative chemotherapy, hormonal therapy, or a combination of these for three courses may result in massive response that renders the patient an excellent candidate for potentially curative or at least palliative surgery. However, nonresponders are treated by radiation therapy. After surgery or irradiation, the patient should continue on systemic therapy.

Metastatic Adenocarcinoma in the Axilla

Occasionally, a patient may present with an enlarged axillary lymph node(s) and no palpable breast masses. In such a case, it is advisable to obtain a mammogram prior to biopsying the axillary lymph node. If the mammogram shows a suspicious lesion in the breast, such lesion should be localized and biopsied first. However, if the mammogram reveals no suspicious lesions, the lymph node is then biopsied to rule out hyperplasia or lymphoma. On the other hand, if metastatic adenocarcinoma is diagnosed in that lymph node, the pathologist must be consulted for possible sites of origin. The patient also must undergo complete work-up for other sites of primaries especially lung, gastrointestinal tract, and possibly the kidneys. If no primary lesion is identified in any of these sites, the probability still exists that the breast is the site of the primary. The situation must be explained to the patient along with recommendation of carrying out a modified radical mastectomy. It will be necessary to alert the pathologist and ask for close sectioning of the breast in the hope of identifying the primary site.

Primary Squamous Cell Carcinomas of the Breast

These are rare and usually present in advanced stage. In such cases, the treatment of choice is radical or modified radical mastectomies. If detected early, partial mastectomy with axillary dissection and possibly breast irradiation may be applicable. The patient must also undergo the same initial work-up on the follow-up as in any case of epidermoid carcinoma. It is important to ensure that the lesion is not metastatic from other primary sites.

Melanoma of the Skin of the Breast

This is a rare condition and should be managed like any other cutaneous melanoma. This includes wide excision, and the patient must undergo the same work-up and follow-up as for any other melanoma.

Adenoid Cystic Carcinomas of the Breast

These are extremely rare and are managed by wide resections. Although it has low-grade malignancy, long follow-up of the patient is important because it tends to metastasize late.

Sarcomas and Lymphomas of the Breast

Several types of sarcomas and lymphomas have been observed in the female breast. These include Hodgkin and non-Hodgkin lymphomas, fibrosarcomas, liposarcomas, rhabdomyosarcomas, angiosarcomas, and most commonly cystosarcoma phylloides.

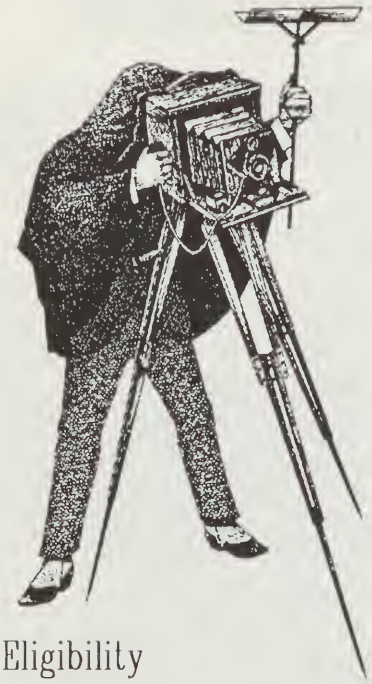
The majority of cystosarcoma phylloides are benign giant fibroadenomas and are managed by local excision. Malignant cystosarcoma phylloides are managed by simple mastectomy if the lesion is larger and involves most of the breast tissue. However, if the lesion is small, it can be treated by partial mastectomy as long as the margins of resections are free of tumor. The patient is observed for hematologic and regional lymph node metastases. Metastases to axillary lymph nodes are rare, and therefore axillary dissection is not required.

Other sarcomas are managed similarly. Postoperative irradiation is indicated for poorly differentiated sarcomas.

Lymphomas of the breast should be managed like other lymphomas by accurate staging and are treated in collaboration with the medical and radiation oncologists.

If you have any questions, call or write the Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, Maryland 21202 (301-328-5224).

E. GEORGE ELIAS MD
Professor of Surgery and Oncology
Director, The Surgical Oncology Program
University of Maryland Medical System



Ninth Annual Med Chi Photo Contest

Enter Early -- Deadline For Entries: March 15,1989
Two Categories: Black & White Or Color
Open to Med Chi Members and Auxiliary Members
All Photographs on Display at the
Turf Valley Country Club
During the 1989 Annual Meeting
First and Second Prizes Awarded in Each Category

Eligibility

All members of the Faculty and members of the Auxiliary to the Medical and Chirurgical Faculty may enter. Professional photographers may not enter. Members of the Photo Contest Committee and their families are not eligible.

Contest Rules

1. Photographs may be submitted in two categories-- Black and White or Color.

2. Limit: three entries per person

3. Entries must have name address, and telephone number attached to the back of each photograph.

4. Prints only, no smaller than 8x10 or larger than 11x14, will be accepted. If your favorite shot is a slide, you must have a print made to enter in the contest within these size ranges.

5. Entries may be mailed or brought to the Faculty Office, 1211 Cathedral Street, Baltimore, Maryland 21201 by the close of the business day on March 15, 1989.

6. Entries must be matted or dry mounted. No framed photographs will be accepted.

7. Photographs entered in the contest will be on display at the Annual Meeting in April of 1989.

8. Winners will be announced at the Annual Meeting of the Medical and Chirurgical Faculty, April 12 thru 14, 1989.

9. Photographs will NOT be mailed back. Photographs may be claimed at the exhibit area at the close of the Annual Meeting on Friday, April 14, at noon or at the Faculty Building thereafter.

10. The Faculty does not guarantee against loss or damage of any kind to the photographs submitted to the contest.

11. Prizes will be awarded to the FIRST AND SECOND place winners. Additional information about the prizes will be published in the Journal.

The Second George Entwisle Lecture in Hypertension: Is Cure for Hypertension A Reasonable Goal?

HERBERT G. LANGFORD MD

On his retirement, George Entwisle MD, who served for eight years as Commissioner on the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors, was honored by the establishment of an annual lectureship at the University of Maryland School of Medicine, Department of Epidemiology and Preventive Medicine. We present a summary of the second inaugural lecture, given in May 1988. Much of the material presented was derived from the Hypertension Detection and Follow-up Program or from studies that followed. Both Drs. Entwisle and Langford were investigators in the HDFP.

We know that antihypertensive therapy reduces mortality and morbidity, even for individuals with mild degrees of blood pressure elevation.[1,2] However, pharmacologic therapy induces undesirable symptoms in some patients, as well as biochemical effects that may partially negate the beneficial consequences of lowering blood pressure. It is moderately expensive to the patient. Moreover, a very large proportion of the population is at risk for treatment. To take an extreme example, if we categorized patients by one random blood pressure taken at home (which of course should not be how we define hypertension), we might decide that half the population of center city Baltimore, Maryland or Jackson, Mississippi must be on antihypertensive therapy. Even if we lower the percentage of the population defined as needing treatment by measuring the blood pressure repeatedly over some weeks, 25 percent of the over 50 years of age population in low income areas may need treatment.

Must We Treat Hypertension Forever?

The Hypertension Detection and Follow-up Program (HDFP) described below gave us an opportunity and an incentive to determine whether prolonged antihypertensive therapy would "cure" a substantial percent of rigorously treated hypertensive patients and whether nutritional change would add to the chance of continued normotension. The patients in this program had been treated for five years.

How many would stay normotensive if: (1) we withdrew the antihypertensive drugs and made no other lifestyle change, (2) we withdrew the drugs and randomly assigned the participants to a weight loss program, or (3) we withdrew the drugs and randomly assigned the participants to a low-sodium diet?

Dr. Langford is Professor of Medicine and Chief, Division of Endocrinology and Hypertension at the University of Mississippi Medical Center.

IIBP Commentary is contributed by the Maryland Connussuion on IIigh Blood Pressure and Related Cardiovascular Risk Factors, 201 W. Preston St., Baltimore, MD 21201 (301-225-5891). Editors: R. Patterson Russesll MD, Past Chairman; Donald O. Fedder PharmBS, DrPII, Chairman; and Carol Lewis MPII, ScD, Executive Director.

Background of the HDFP

The HDFP was a community based, randomized clinical trial involving 11,000 hypertensive participants at 14 centers around the country. The study compared the effect on all-cause mortality of systematic antihypertensive treatment, designated as stepped care (SC), with treatment provided by community sources of medical care, designated as referred care (RC). The principal finding after five years was a statistically significant 17 percent lower five-year mortality for the SC group compared with the RC group. Subsequently, five-year incidence rates of stroke, coronary heart disease, angina pectoris, and left-ventricular hypertrophy were found to be significantly lower in SC than in RC participants. These beneficial results in SC are thought to be a consequence of the more effective treatment of high blood pressure achieved in SC compared with RC.

The HDFP 6.7-year life-table mortality rates revealed an even larger mortality difference than was observed at five years. This favorable finding for SC extended to all major subgroups, including white women and those persons aged 30 to 49 years at trial entry. Six months after the close of the treatment trial a two-year posttrial surveillance study, which extended mortality follow-up to 8.3 years, was begun. Results showed that the posttrial use of antihypertensive medication had declined in SC and had increased in RC participants, so that by the end of the posttrial period there was little difference in the percentages of SC and RC participants taking medication.[3] Control of blood pressure, indicated by percent of participants with a mean diastolic pressure of 90 mm Hg or less, was slightly better for SC than for RC participants (SC group: 86.5 mm Hg and 69 percent controlled; RC group: 87.8 mm Hg and 62 percent controlled). The absolute mortality advantage found at 6.7 years persisted and increased throughout the posttrial period of follow-up, despite discontinuation of the formal SC therapy program. It is thought that regression of hypertensive end-organ changes brought about by the more effective SC treatment may have accounted for this favorable outcome.

Other data support the concept that prolonged antihypertensive therapy may cause changes in the pathologic and/or physiologic consequences of hyper-

tension, such as regression of hypertrophied smooth muscle in the hypertensive arteriole.[4] Other studies have suggested that, to varying degrees, amelioration of the severity of hypertension after prolonged antihypertensive therapy does occur.[5]

Dietary Intervention in Sustained Hypertension

To try to answer the questions posed above about the necessity of continued antihypertensive therapy, we decided to do a study that we later called DISH (Dietary Intervention in Sustained Hypertension).[6]

Three former HDFP clinics joined in the DISH study. Participants who had been in the stepped care groups at medical schools in Jackson, MS, Birmingham, AL, and Einstein in the Bronx, NY were invited to participate in the study. Of slightly more than 500 eligible patients who had been normotensive while receiving antihypertensive drug therapy, 496 were randomized into a control group and into discontinued medications groups with and without dietary intervention. The control group was continued on antihypertensive therapy. The discontinued medication groups included: (1) medication stopped with no diet change, (2) medication stopped with a behavior-oriented dietary program aimed toward weight loss, and (3) medication stopped with a diet program aimed toward sodium restriction and increased potassium intake.

Success of the Diet Change Groups

Figure 1 shows the success with weight loss. By 32 weeks the mean reduction was 10 pounds, and there was actually a slight increase in the weight loss by 56 weeks. These results are in marked contrast to those I normally get in my practice. Most of my patients gain slightly when I encourage weight loss. Most of the patients referred to a hospital-based dietitian for one or two consultations, in my experience, do very little better than the patients I attempt to counsel myself.

Sodium excretion was reduced by about one-third in those randomized to a low-sodium diet, reaching an excretion of about 100 milliequivalents (5.85 grams NaCl) per day. This reduction was not as marked as we desired. However, it is about as low as one can get one's sodium excretion without using salt-free bread and other nonappealing foods.

I consider our results with weight loss excellent, as well a tribute to the program devised by Dr. Arline Caggiula and Rene Wing and carried out by our nutritionist. The program is administered to groups and involves working with the participants to enable them to change their behavior, not merely telling them which foods have high calorie content.

Although the results with sodium restriction were not at our desired goal, the sodium excretion our patients reached was about the level that most intervention studies have reported.

Medication was withdrawn from three groups of the participants, and they were followed regularly. If they became hypertensive again, they were restarted on antihypertensive medication. Figure 2 shows the cumulative percentage who were not taking antihypertensive medications, by intervention group. We show the results separately for those who were overweight and those who were not overweight. (Those who were not overweight were not randomized to weight reduction.) The greatest difference in the 56-week success rates was between the control and the weight reduction groups in the overweight division. Sixty percent of the weight reduction patients were still normotensive at the end of one year, compared to 35 percent for those just withdrawn from medication with no dietary interven-

Figure 1. WEIGHT LOSS IN WEIGHT REDUCTION GROUPS

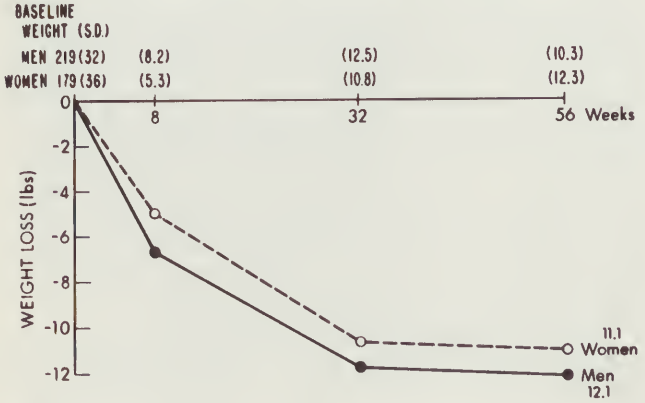
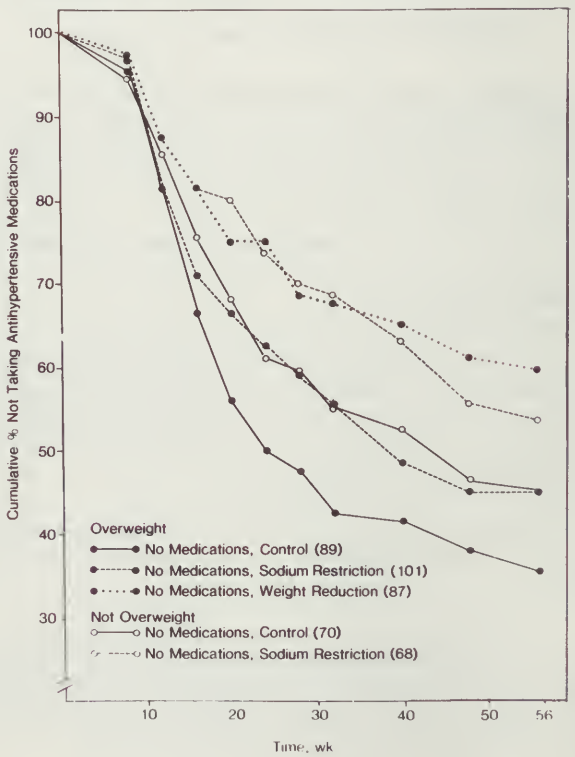


Fig 2.—Cumulative percent not taking antihypertensive medications, by intervention group—total.

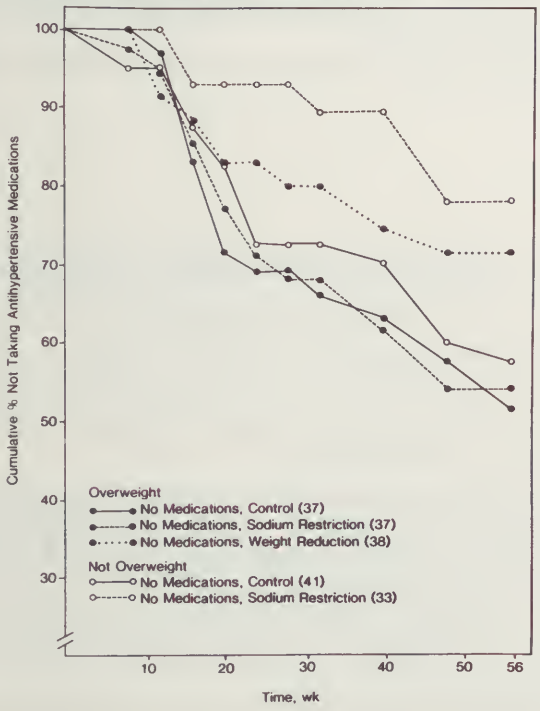


tion and 45 percent for those withdrawn from medication and put on a sodium restriction diet.

Figure 3 shows results more applicable to the average hypertensive patient. These results are for the mild hypertensive individuals, defined as those with initial blood pressure between 90 and 105 mm Hg at the beginning of the HDFP study and not on antihypertensive medication: relapse was much slower for these individuals even without diet change. Overweight participants relapsed more rapidly than those not overweight. Those who were overweight and had no diet change were slightly more likely to relapse than those who were not overweight. However, those randomized to sodium restriction were much more likely to relapse if they were overweight than if they were not overweight, 54.1 percent remaining off antihypertensive medication in the overweight group and 77.8 percent remaining off antihypertensive medication in the nonoverweight group. The group that had the best clinical outcome was the nonoverweight group randomized to sodium restriction, where 77.8 percent of the participants were off antihypertensive medications and not hypertensive at the end of one year.

Because this study stopped at 56 weeks, we cannot say how long our patients would have remained normotensive if their decreased sodium intake and their decreased weights were maintained and no medication was added. However, Stamler and colleagues did a similar study where participants restricted both their sodium intake and their calorie intake.[5] They continued to get favorable results for the four years over which they followed their population.

Fig 3.—Cumulative percent not taking antihypertensive medications, by intervention group—mild hypertensive persons.



Results of Diet Change in Untreated Hypertensive Patients

Despite the prolonged enthusiasm for weight and electrolyte changes in the treatment of hypertension, there is a paucity of studies about the success rate in blood pressure control of large groups of hypertensives subjected to dietary change. Most of the successes have come from studies of very small groups of individuals with moderately severe hypertension who reduced their sodium intake from quite high to quite low levels or who attained greater weight change than the 10 pounds we have reported. It is likely that diet change is an inadequate sole antihypertensive therapy when applied to the pharmacologically untreated hypertensive patient.

Why does the hypertensive patient who has been under drug therapy respond better to dietary management? The reader will recognize that I have not proved conclusively that diet management is ineffective as sole therapy. I believe there is adequate evidence to prove that in the literature. However, there are strong reasons to believe that diet therapy should be more effective after drug therapy has been applied (or applied simultaneously with drug therapy) than in the untreated hypertensive individual.

The dietary study I just reported showed how slow was the relapse in the usual patient when drug therapy was withdrawn. Moreover, we found that the lower the blood pressure had been titrated by antihypertensive medication, the slower was relapse, even when the computer took into account all the other factors, such as severity of hypertension and number of drugs used, which affected relapse. Apparently something favorable to hypertension had happened with prolonged drug therapy, and that something favorable was more marked if the blood pressure was titrated to a quite low level, for instance below 80 mm Hg than if it was just at 90 mm Hg. The concepts of Folkow provide a reasonable explanation of these results.[7] He has reminded us of the fact that the arteriole in the hypertensive patient steadily develops thicker walls as hypertension progresses. These thick-walled vessels constrict the lumen more when stimulated than do thin-walled vessels. Hypertension induces arteriolar hypertrophy; arteriolar hypertrophy increases hypertension. Prolonged antihypertensive therapy allows regression of this hypertrophy. Therefore, the patient has a lesser tendency to become hypertensive. He still has some tendency to become hypertensive, as shown by the fact that our individuals did relapse. However, if some of the precipitating causes of relapse are removed, by proper dietary change, then the tendency towards hypertension developing becomes much less.

Can Hypertension be Cured?

Therefore, it seems possible that the multiplicative hypertrophic components that abet and sustain hyper-

tension can sometimes be removed by prolonged antihypertensive therapy. If the patient will then follow the kind of diet that he/she should have followed all along (one directed toward lack of obesity, a low sodium intake, and probably a high potassium intake) he or she will, with considerable likelihood, remain normotensive.

The considerations above suggest that we can say that hypertension can be cured. It is a reasonable hope to hold out to mild hypertensive patients. However, attainment of that cure will require patients to be faithful in taking of the antihypertensive drug(s) and will require providing patients with appropriate behavior-change-based nutritional programs that will allow them to reduce weight and change their electrolyte intake in a favorable manner.

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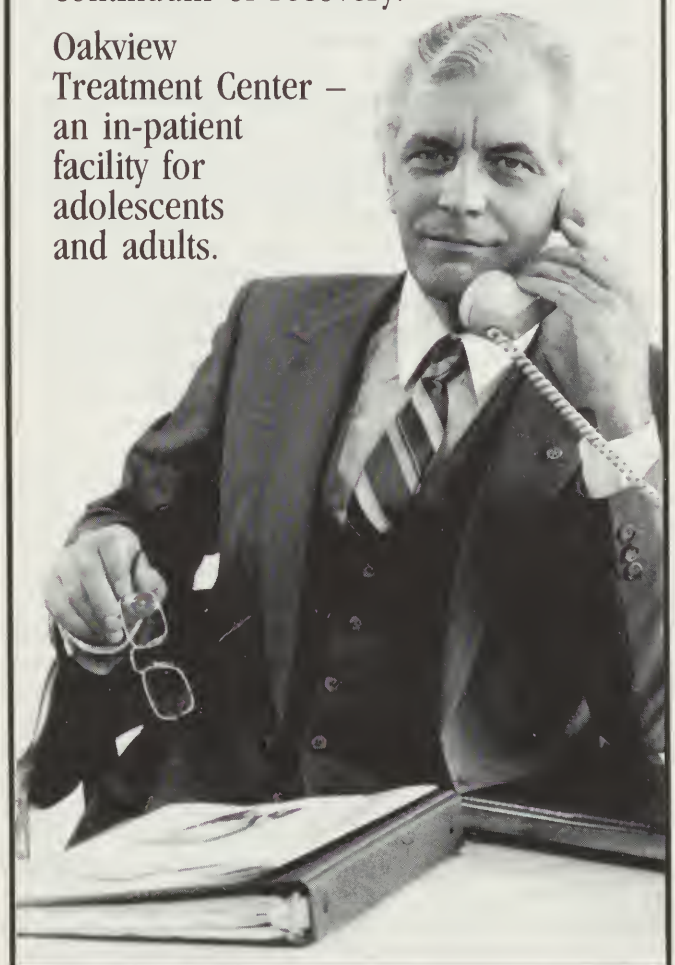
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Another method is to use a capsule or protective shield to protect the insulin from being destroyed by the digestive action of the stomach and small intestine, yet be available to be taken into the circulation when it reaches the large intestine. This encapsulation is possible with polymers cross-linked with azoaromatic groups forming an azopolymer coating that disintegrates in the large intestine. This method requires more study and evaluation before it can be offered for clinical trials.

Researchers are working on other methods of treating diabetes that will make daily injections obsolete, but only the insulin pumps (still injectable insulin) are ready for large trials at this time.

DeWITT E. DeLAWTER MD
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In the Matter of
Raymond F. Bayerle MD
Before the
Maryland State Board of
Physician Quality Assurance

Order for Summary Suspension
of License to Practice Medicine

Based on information received by the State Board of Physician Quality Assurance (the "Board"), the Board hereby issues as set forth herein Findings of Fact, Conclusions of Law, and Order for Summary Suspension (the "Emergency Suspension") with regard to the license to practice medicine of Raymond F. Bayerle MD (the "Respondent").

Findings of Fact

Based on information made known and available to the Board as of the date of the issuance of this Emergency Suspension, the Board has reason to believe the following facts are true:

1. Respondent is licensed to practice medicine in the State of Maryland.

2. Respondent possesses Maryland Controlled Dangerous Substances (CDS) Registration Number M15994, which expired June 30, 1988.

3. Respondent possesses United States Drug Enforcement Administration ("DEA") Registration Number BB 0388721, which expires July 31, 1990.

4. Sgt. Robin Dewberry of the Baltimore County Police Department, working in an undercover capacity using the assumed name of Mike Wolfe, purchased two (2) prescriptions from Respondent for a total price of $400. Respondent wrote both prescriptions in the presence of Sgt. Dewberry while seated in the passenger seat of his 1987 Pontiac Firebird bearing Maryland Registration TBX 056 at 6461 Red Keel Rd. in Columbia, MD, on September 8, 1988. The prescriptions were for Dilaudid 4 mg, #100 each in the names of X and Y. Neither X nor Y were present when Respondent wrote the prescriptions.

5. On September 12, 1988, Respondent sold a prescription for Dilaudid 4 mg, #100 in the name of Bob Morgan dated September 13, 1988, and a prescription for Dilaudid 4 mg, #100 in the name of John Miller dated September 14, 1988, to Sgt. Dewberry for $200 each. Neither Bob Morgan nor John Miller were present when Respondent wrote the prescriptions.

6. On September 14, 1988, Respondent sold a prescription for Dilaudid 4 mg, #100 in the name of John Wright dated September 15, 1988, and a prescription for Dilaudid 4 mg, #100 in the name of Mike Wolfe dated September 16, 1988, to Sgt. Dewberry for $200 each. John Wright was not present when Respondent wrote the prescription. Although Mike Wolfe (aka Sgt. Dewberry) was present when Respondent wrote the prescription, Respondent did not take a history or perform a physical examination. Mike Wolfe did not seek medical care or treatment from Respondent when Respondent wrote the prescription. Mike Wolfe never had a patient-physician relationship with Respondent.

7. On September 20, 1988, Respondent sold a prescription for Dilaudid 4 mg, #100 in the name of Larry Brown dated September 22, 1988, and a prescription for Dilaudid 4 mg, #100 in the name of Greg Welsh dated September 22, 1988 to Sgt. Dewberry for $200 each. Neither Larry Brown nor Greg Welsh were present when Respondent wrote the prescriptions.

8. Respondent wrote the prescriptions mentioned in paragraphs 4,5,6, and 7, after his Maryland CDS Registration expired on June 30, 1988. Dilaudid is a Schedule II controlled dangerous substance that may only be prescribed by a practitioner with a valid Maryland CDS Registration and a valid United States DEA Registration.

9. It is unlawful for a practitioner to prescribe any controlled dangerous substances except in the course of his regular professional duties and in conformance with the provisions of Article 27, Subtitle Health-Controlled Dangerous Substances, *Annotated Code of Maryland*, and the standards of his particular profession relating to controlled dangerous substances (See Article 27, 288(c), *Annotated Code of Maryland*).

10. Based on the above Findings of Fact, the Board has reason to believe that Respondent has violated 14-504(a) (2), (3), and (28) of the Maryland Medical Practice Act, Title 14, Health Occupations Article, *Annotated Code of Maryland* as follows:

> (2) fraudulently or deceptively uses a license;
> (3) is guilty of immoral or unprofessional conduct in the practice of medicine; and
> (28) sells, prescribes, gives away, or administers drugs for illegal or illegitimate medical purposes.

Respondent may, after notice and an opportunity for a hearing, be reprimanded, placed on probation or have his license suspended or revoked as set forth in the Charge Letter attached hereto as Exhibit A.

11. Writing prescriptions for Dilaudid for an individual without taking a history or performing a physical examination poses a risk to the health, safety, and welfare of that individual.

12. Writing prescriptions for Dilaudid without a legitimate medical reason poses not only a risk to the health, safety, and welfare of the individual for whom the prescription is written, but also poses a risk to the public health, safety, and welfare.

13. Based on the allegations in paragraph 6 above and on other information, United States DEA Agents arrested Respondent on September 22, 1988 at 6461 Red Keel Rd. pursuant to a warrant for arrest.

On instruction of the Council of the Medical and Chirurgical Faculty of the State of Maryland, "Findings of Fact, Conclusions of Law, and Order" will be published in the Maryland Medical Journal.

14. Based on the allegations in paragraphs 4, 5, and 6 above and other information, United States DEA Agents executed a search and seizure warrant on Respondent's home at 6461 Red Keel Rd. on September 22, 1988. The search did not reveal any patient records in the names of John Miller, Bob Morgan, John Wright, Mike Wolfe, Larry Brown, or Greg Welsh.

15. Respondent was indicted as a result of the allegations in paragraphs 4, 5, 6, and 7 above and other information in Criminal Number HAR 88-0336, *United States of America v. Raymond Francis Bayerle*, in the US District Court for the District of Maryland. An arraignment on the charges is scheduled for October 7, 1988.

16. Respondent is being held in the Baltimore City Jail without bail. Any time prior to trial, Respondent may request a bail review hearing. A bail review hearing may be scheduled within twenty-four hours.

17. Although Respondent is presently incarcerated, Respondent is still capable of making telephone calls and could telephone prescriptions using his expired Maryland CDS Registration and United States DEA Registration.

18. Although Respondent is presently incarcerated, Respondent can receive visitors who could bring in prescription pads enabling Respondent to write prescriptions for drugs without a valid medical purpose.

19. Although Respondent is presently incarcerated, absent the suspension of his license, he can practice medicine and recommend treatment.

20. Although the US Assistant Attorney General has assured the Board that he will inform the Board immediately if the Respondent is released from the Baltimore City Jail, it is possible for Respondent to be released prior to the Board being notified.

21. If Respondent is released from jail, Respondent could practice medicine and write prescriptions unless the Board summarily suspends Respondent's license.

22. Respondent's retention of a Maryland license to practice medicine and his ability to prescribe controlled dangerous substances poses a grave risk and imminent danger to the public health, safety, and welfare of the citizens of Maryland.

Conclusions of Law

Based on the foregoing facts, the Board finds that the public health, safety, and welfare imperatively requires emergency action in this case, pursuant to State Government Article, 10-405(b), *Annotated Code of Maryland*.

Order

It is this 7th day of October 1988 by the Board of Physician Quality Assurance:

ORDERED that pursuant to the authority vested in the Board by State Government Article, § 10-405 of the Annotated Code of Maryland, Respondent's license to practice medicine in the State of Maryland is hereby **SUMMARILY SUSPENDED**; and be it further

ORDERED that on presentation of this Order, Respondent shall immediately deliver or have delivered to the Board:

(1) his original license from the Board of Medical Examiners (License Number M 15994);

(2) his renewal card for his license to practice medicine from the Board of Medical Examiners;

(3) his US Drug Enforcement Administration Registration Certificate;

(4) his Maryland Controlled Dangerous Substances Registration Certificate and

(5) any prescription pads on which his name or registration number are imprinted; and be it further

ORDERED that a hearing to consider this emergency suspension shall be held before a Hearing Examiner within thirty (30) days of the date on which the Board receives a written request for such a hearing from the Respondent.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance

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A Patient with Biliary Tract Obstruction and AIDS

We recently had an opportunity to care for a patient with biliary tract obstruction and acquired immune deficiency syndrome (AIDS). We present this case as an illustration of this uncommon manifestation of this syndrome.

A 34-year-old white male was hospitalized with a four-week history of watery diarrhea, 40 lb weight loss, and profuse night sweats. The diarrhea was described as 8 to 10 brown, watery bowel movements per day without blood, severe abdominal pain, or tenesmus. As intermittent fever to 103° F was noted for four days prior to hospital admission. The patient admitted to an eight-year history of intravenous drug use as well as heavy ethanol consumption. Homosexual contacts were denied.

On examination, the patient appeared cachectic and had marked temporal wasting. The initial temperature was 102.8° F. The blood pressure was 116/60 mm Hg with a pulse rate of 100 and significant orthostatic changes. The head and neck exam showed a white exudate on the palate and pharynx as well as significant palpable adenopathy in the anterior and posterior cervical areas. The lung fields were clear to auscultation, and the heart sounds were normal. The abdomen was soft, and there were normal bowel sounds. The liver was 7 cm below the right costal margin with a tender edge, and the spleen was not palpable. There was prominent inguinal adenopathy. The rectal examination was remarkable only for occult blood positive stools.

The initial laboratory profile showed a white blood cell count of 7,200/cu mm with 66 percent polymorphonuclear leukocytes, 24 percent bands, and a hematocrit of 29.4 percent. The serum chemistry analysis included an SGOT of 112 u/l (normal 12-45), SGPT of 40 u/l (normal 7-40), alkaline phosphatase of 674 u/l (normal 37-107), albumin of 2.5 gm/dl (normal 3.5-4.8), and a bilirubin of 0.6 mg/dl. The chest X-ray was normal. Blood and stool cultures were both positive for *Salmonella enteritidis*. A positive HIV-antibody assay was confirmed by western blot technique.

The patient developed pruritis and cholestasis with an increasing alkaline phosphatase to 998 u/l, SGOT of 130 u/l, SGPT of 46 u/l, and normal bilirubin. A CAT scan of the abdomen revealed a dilated common hepatic and common bile duct without intrahepatic ductal dilatation. There was a pericholecystic fluid collection, although no calculi were visualized. Fatty infiltration of the liver and generalized wasting of body tissues also were noted. A thickened gall bladder wall without calculi was discovered by abdominal sonogram.

The patient's diarrhea and fever abated on antibiotic therapy. The pruritis was refractory to antihistamines, and the patient refused cholestyramine. Any additional evaluation was refused.

The hepatic manifestations of AIDS have been reviewed recently.[1,2] The majority of liver biopsies done for fever, hepatomegaly, or abnormal liver blood tests do not provide a specific infectious diagnosis.[1,3] However, the finding of granulomas usually are indicative of an infectious process with M. avium-intracellulare, CMV, or fungal organisms.[1,3-5] Although there are few treatable hepatic manifestations of AIDS, it is interesting to note that rarely, if ever, do AIDS patients die as a direct result of liver disease.[4,5]

AIDS patients may have a clinical picture similar to that of sclerosing cholangitis or papillary stenosis, which have ultimately proved to be secondary to infections with CMV or cryptosporidia.[6-9] Although there is no proved effective medical therapy, these patients have undergone endoscopic sphincterotomy with good results.[8] There have been several case reports of patients with acute acalculus cholecystitis who have been found to have an underlying CMV or cryptosporidia infection.[10,11] We cannot state with certainty whether organisms are causative or simply represent a superimposed infection. It has been suggested that at least in the case of CMV infection, the mechanism is immunological and not direct inflammation related to the infectious process.

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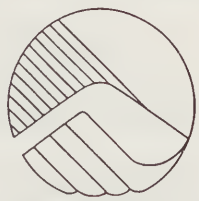
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from "The Sick Physician", a report to the Council on Mental Health adopted by the AMA House of Delegates, November 1972.

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January 27, 1989

Public and Private Sector Responses to the Health Cost and Quality Management Dilemma of the 1990s

L'Enfant Plaza, Washington, DC

Presented by the American College of Legal Medicine in association with Health Services Administration Department, George Washington University.

Registration: by January 16 $145 ACLM members, $165 nonmembers; thereafter $170 ACLM members, $190 nonmembers.

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BRIEF SUMMARY

CONTRAINDICATIONS

There are no known contraindications to the use of sucralfate.

PRECAUTIONS

Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

Pregnancy: Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

OVERDOSAGE

There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

DOSAGE AND ADMINISTRATION

The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

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Reference:

1. Eliakim R, Ophir M, Rachmilewitz D: *J Clin Gastroenterol* 1987;9(4):395-399.

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Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae, Haemophilus influenzae,* and *Streptococcus pyogenes* (group A β-hemolytic streptococci).
Contraindication: Known allergy to cephalosporins.
Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS

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Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
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It has been said that some physicians are as uncomfortable entering a legislative hearing room as a layman would be walking into a surgical suite. The January 1989 issue of the Maryland Medical Journal is dedicated toward Med Chi's goal of assisting its members in understanding the entire legislative process so that they are comfortable not only entering a hearing room but also testifying before a committee. This second annual Legislative Issue and the accompanying Legislative Directory are valuable tools for physicians that will enable them to understand and influence the legislative process.

This year, Mandated Medicare Assignment, Tort Reform and Physician Triplicate Prescriptions are just a few of the many pressing issuing facing Med Chi in Annapolis. The outcomes of these issues will affect the future of medicine in our state. In order to be justly represented, it is necessary for Maryland physicians to become informed and involved.

Med Chi hopes that the information contained between these pages will bring physicians closer to active involvement in Annapolis--closer to having their voice heard in the State House.

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January 1989

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Doctors in the State House? Some may say, "It's a shame! They should be practicing...using their time caring for patients in their offices." But today, the reality is: It's a necessity! As physicians in 1989, our responsibilities lie in both treatment and legislative action. Physician involvement in the legislative process is the only way we can preserve and enhance a system that provides the finest quality medical care in the world.

But involvement is always more effective when it is based on information and education. For this reason, Med Chi is once again bringing you a special legislative issue of MMJ. In it you will find articles on the specifics and generalities of the challenges that face us this year in Annapolis. Understanding the issues and the process will underline why our presence in Annapolis is so important and why every member of Med Chi should take at least the first step toward becoming involved in the political process by joining the Maryland Medical Political Action Committee.

Patient care begins in the office, but it continues in the State House. As a physician today, quality care for your patients and active involvement in the legislative arena are integrally linked. For more information or to offer your assistance, please call the Med Chi Government Relations Department at 1-800-492-1056 or, in the Baltimore area, 539-0872.

Sincerely,

Michael R. Dobridge, M.D.

Michael R. Dobridge, M.D.
President

Independent Status for Hospital Medical Staffs: No Cause for Antitrust Alarm

ALAN M. RIFKIN, GARRET G. RASMUSSEN, GERARD E. EVANS, AND KENNETH L. GLAZER

In recent years, there has been a growing controversy surrounding the issue of so-called "independent status" for hospital physician staffs. During the late 1970s and early 1980s, some articles advanced the theory that any conduct creating the appearance of an independent status for the hospital staff separate from that of the hospital could generate the environment for an antitrust action. These early theories, however, failed to fully appreciate the basic nature of antitrust law and the changing role of the hospital medical staff. Indeed, the changing nature of the hospital medical staff and the current application of antitrust law strongly indicate the early theories are misplaced and the "independent status" of the hospital medical staff does not create cause for antitrust alarm.

This changing legal and operative environment has been reflected in pronouncements by the American Medical Association House of Delegates, which has recognized there may be a need for hospital staff physicians to have independent legal representation, separate from the hospital itself. The General Counsel of the AMA has written:

> The AMA House of Delegates has adopted the position that the Association strongly recommend that hospital medical staffs retain their own attorneys so that the medical staff will have its own legal advocates for guidance in appropriate circumstances (Johnson, *The Citation*, Vol. 54, No. 3 at 1 [1986]).

While instances may vary, the AMA has discussed that appropriate circumstances for independent status and counseling may include negotiation of contracts, certain credentialing and peer review decisions, aspects of accreditation standards, review of bylaws, joint venture participation, risk management programs and counsel, right to life issues, and physician quality assurance matters.

Furthermore, the current status of the issues raised in this area was ably addressed by the American Medical Association's Board of Trustees in June 1988 through its adoption of a Report, "Peer Review After *Patrick v. Burget*." This AMA Report, as much as any other single public document, signals that older antitrust concerns are being uprooted by new and even more challenging questions concerning the vitality and viability of those concerns.

Background

In previous years and for a variety of reasons certain hospital lawyers have warned that any independent status advanced by hospital medical staff could create what one article termed "a legal nightmare." Specifically it has been stated:

> [t]he biggest danger if the staff acts as or appears to be an entity separate from the hospital is that virtually every medical staff credentialing decision with a result adverse to the practitioner in question can be turned into a lengthy and potentially devastating antitrust suit (Mulholland, "The Evolving Relationship Between Physicians and Hospitals," XXI Tort & Insurance Law Journal 295, 307 [Winter 1987]).

Sound legal analysis strongly suggests that these threatened dangers are vastly exaggerated and have a tendency to cloud rational decision making by hospitals and effectively chill medical staff participation in important aspects of hospital practice. While cooperation between hospital and medical staff reflects the norm and is encouraged by all who seek to provide quality health care, the threat of antitrust action (inappropriately placed) could act to intimidate both a hospital and its staff from acting in a proper manner and in the best interest of the patient. It is to these issues that this article attempts to speak. Simply, the retention of independent counsel and the assertion of "independent status" appears to neither create nor increase antitrust liability in the eyes of the law. It is the substance of the action, not the form of the medical staff that controls.

Specter of Multimillion Dollar Antitrust Cases Vastly Exaggerated

The alarm over antitrust liability created by certain extended legal theories is largely unfounded. In the context of hospital medical staffs, antitrust issues typically have arisen most often in cases brought by physicians who have been denied staff privileges and referrals.

For a variety of reasons, these cases have been routinely dismissed by the courts. In addition to the court's concerns about its qualifications for reviewing peer review and privileging decisions, courts have been reluctant to subject these important decisions to "the

Messrs. Rifkin and Rasmussen are partners and Mr. Glazer is an associate of Patton, Boggs & Blow, a national law firm based in Washington, DC. Mr. Rifkin, a partner in the Baltimore office of the firm, formerly was Chief Counsel to Governor William Donald Schaefer. Mr. Rasmussen is an antitrust specialist formerly with the Federal Trade Commission in Washington. Mr. Glazer, is the senior antitrust associate at Patton, Boggs & Blow. Mr. Evans is General Counsel to the Medical and Chirurgical Faculty of Maryland and was previously an assistant to the Maryland Senate Judicial Proceedings Committee. The authors thank Martha Kendrick, an Associate at Patton, Boggs & Blow specializing in health care law.

draconian litigation involved under antitrust laws." (*see* AMA Report at 5). In 1988 alone there have been a number of such dismissals: *see Collins v. Associated Pathologists, Ltd.*, 844 F.2d 473 (7th Cir.), *cert. denied*, 57 U.S.L.W. 3233 (1988); *Cooper v. Anster*, 845 F.2d 1010 (3d Cir.), *cert. denied*, 57 U.S.L.W. 3233 (1988); *Nanavati v. Burdette Tomlinson Memorial Hospital*, 1982-2 Trade Cas. (CCH) 68,208 (3d Cir. 1988). *See also Bolt v. Halifax Hosp. Medical Center*, 851 F.2d 1273 (11th Cir. 1988) (dismissing all counts except those alleging conspiracy between separate hospitals); *Nurse Midwifery Associates v. Hibbett*, No. 82-3208 (M.D. Tenn. 1988) (same). Indeed, one court recently imposed sanctions on an attorney bringing such a case. *Mir v. Little Company of Mary Hospital*, ___ F.2d ___, No. 87-6269 (9th Cir. 1988).

Reflective of the court's reasoning in these cases is the following statement contained within *Pontius v. Children's Hospital*, 552 F. Supp. 1352 (W.D. Pa. 1982) wherein the court stated:

> [i]f individual physicians, who manage to overcome their traditional reluctance to testify about the professional conduct of a colleague, know that by so doing they risk incurring legal fees running into six figures and a trial of duration measured in months, on the mere allegation that they have conspired to restrain trade, the discovery of incompetent physicians will be rendered extraordinarily difficult.

Although many antitrust cases have been filed, it is not surprising that plaintiffs lose so many of these cases. The burden of proof on the challenging party to establish an antitrust violation is significant and often difficult to maintain. As a general rule, cases involving denial of staff privileges are tested under the antitrust law's so-called "rule of reason" (*see, for example, Miller v. Indiana Hospital*, 843 F.2d 139 (3d Cir.), *cert. denied*, 3235 [1988]), and very concrete, specific evidence is required. The same is true of cases involving denial of staff privileges to nonphysician health professionals, such as chiropractors and podiatrists *see for example, Wilk v. American Medical Ass'n*, 719 F.2d 207 (7th Cir. 1983), *cert. denied*, 467 U.S. 1210 [1984]). To prevail in "a rule of reason" case, a plaintiff must prove that the challenged conduct injures competition in a defined market and that such injury is not outweighed by procompetitive benefits.

In the staff privileges context, the rule of reason analysis focuses primarily on whether the hospital's conduct in revoking or denying staff privileges is based on a good faith assessment of the physician's competence or whether it is motivated by an overriding desire to fence out competitors and potential competitors. (*see Miller v. Indiana Hospital*, 843 F.2d 139, 144-45 (3d Cir.), *cert. denied*, 57 U.S.L.W. 3235 [1988]). The *Miller* case illustrates just how clear and specific the anticompetitive motivation must be before a court will allow the case to proceed to the jury. In the specific instance of *Miller*, to prevent dismissal of the case the plaintiff physician had to submit affidavits showing that the hospital was reacting to a competitive threat created by the plaintiff's decision to establish a comprehensive family oriented medical center two miles from the hospital and rather than that the plaintiff failed, for other reasons, to receive privilege at the hospital. Simply stated, the law requires a very specific showing of anticompetitive motivation, almost to the exclusion of other factors before an antitrust violation will be found.

If a hospital and its staff adopt objective and fair standards, maintain adequate documentation, and consult knowledgeable counsel (either independently or jointly) they should have little to fear from the antitrust law. For example, in *Cooper*, the hospital's requirements for making a physician eligible for patient referrals by the emergency room were: (1) completion of an internship and residency approved by the American Osteopathic Academy of Orthopedics; (2) certification in orthopedic surgery by the American Osteopathic Academy of Orthopedics; (3) status for at least three years as an active staff physician; and (4) admission of at least 50 patients per year from the physician's practice to the hospital's orthopedic service. The court held that these criteria are objective and relevant to a doctor's competence (obviously a matter of serious concern to the hospital) and therefore enforcement of these standards would not violate the antitrust laws.

As a recent American Bar Association publication correctly noted: "Antitrust problems arise only if the peer review process was a sham process used to exclude competent physicians for private, anticompetitive purposes" (ABA Antitrust Section Health Care Committee, *The Antitrust Health Care Handbook* (1988) at 19).

While in the recent case of *Patrick v. Burget*, 108 S. Ct. 1658 (1988), the Supreme Court held that the State Action Doctrine did not immunize peer review activities from the antitrust laws, the Board of Trustees of the American Medical Association, in subsequently adopting its June 1988 Report, concluded that the risks of legal liability when a physician participates in peer review are minimal, as long as the purpose relates to enhancement of good quality medicine and not a bad faith motive such as damage to a competitor, and as long as proper procedures are followed to ensure fairness. The AMA Report recommends additional protection from antitrust exposure through state passage of legislation both to further protect physicians from antitrust exposure and to provide different, but appropriate, legal remedies for peer review complaints. While antitrust cases in the medical staff arena have been largely unsuccessful:

> [t]hey have taken a toll. The cases have been expensive to defend and an emotional burden on the defendants. Some cases have been settled. There is no reliable information about the terms on which cases have been settled, but some may have resulted in payments by hospitals and defendant physicians to the plaintiff physicians.
>
> In addition, the threat of antitrust litigation may have influenced physicians on peer review committees not to recommend adverse actions. Again, there is no reliable information about the degree of influence that threatened antitrust litigation many have had on peer review decisions. But it is likely that physicians have been reluctant to risk being sued, even if confident that they would win, because of the emotional and financial burden of litigation.

Congress has injected itself into the peer review/antitrust debate motivated in part by the "overriding national need to provide incentive and protection for physicians engaging in effective professional peer review" through the passage of Pub. L. No. 99-660, the Health Care Quality Improvement Act of 1986 (42 U.S.C. Section 11101 *et seq.*, 100 Stat. 3784-94 [1986]). This statute vests immunity to individuals providing information to entities conducting professional review activities (including clinical privileges and membership determinations) as well as to individuals and entities who take professional review actions against physicians based on competence or conduct.

To receive antitrust immunity under the Act, certain standards must be met, for example, the professional review action must be taken in the reasonable belief that the action was in the furtherance of quality health care, reasonable efforts must be made to obtain the facts, and adequate hearing and notice procedures must be provided to physicians. As described, the Act essentially provides a safe harbor for peer review action if that action is taken "in the reasonable belief that [it] was in the furtherance of quality health care" Section 1112(a).

Independent Status Will Not Increase Antitrust Risk

In the late 1970s and early 1980s some lawyers, extending their reasoning from peer review cases, argued that even the appearance of an independent status by the medical staff would significantly increase exposure to "multimillion dollar" antitrust cases. Indeed, in a newsletter, *Action Kit*, written by counsel at the law firm of Horty, Springer and Mattern, it was advanced that consideration of independent status is "legally dangerous," will force hospitals to "close their doors forever," and will subject physician to "financial disaster." While such polemics may be good legal marketing (particularly for hospital clients) they constitute bad antitrust analysis.

Liability under Sherman Act 1 (the relevant antitrust law) requires an agreement, combination, or conspiracy among two or more entities, 15 U.S.C. 1. While a conspiracy cannot be found within a single corporate entity, *see Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752 (1984), the fact that a medical staff seeks independent counsel will not increase the risk that an unlawful combination or conspiracy will be found.

Contrary to the assertion of certain counsel, preserving or eliminating the form or appearance of a single organization will *not* be dispositive of whether hospital staff physicians violated antitrust laws. Under antitrust law, substance, not form, controls. *See Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752 (1984); *Simpson v. Union Oil Co.*, 377 U.S. 13, 24 (1964).

The relevant issue is not whether the hospital and its medical staff are or appear to be a single entity for purposes of conspiratorial capacity but whether the medical staff itself is a group of individual actors who compete with each other. This is illustrated by the leading case, *Weiss v. York Hospital*, 745 F.2d 786, 814-15 (3d Cir. 1984), *cert. denied*, 470 U.S. 1060 (1985). In *Weiss*, an osteopath brought an antitrust claim against a hospital and its medical staff for denying staff privileges to osteopaths.

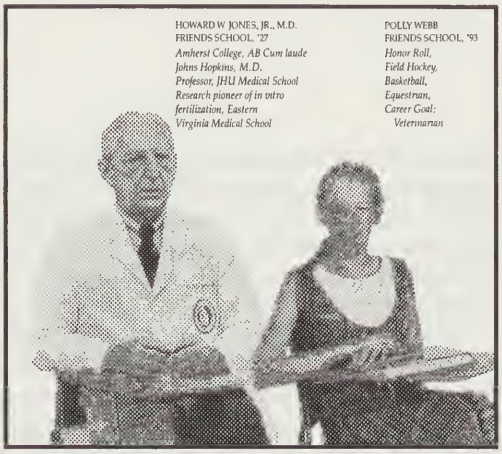
On appellate review, the Third Circuit Court of Appeals agreed with the district court that the hospital cannot legally conspire with its medical staff (*id.* at 814-15). However, it reasoned that the medical staff itself was not a single entity for antitrust purposes but was instead a combination of doctors who were in competition with each other. The court explained its reasoning:

> Antitrust policy requires the courts to seek the economic substance of an arrangement, not merely its form. . . . The "substance" of an arrangement often depends on the economic incentive of the parties. The York medical staff is a group of doctors, all of whom practice medicine in their individual capacities, and each of whom is an independent economic entity in competition with other doctors in the York medical community. Each staff member, therefore, has an economic interest separate from and in many cases in competition with the interests of other medical staff members. Under these circumstances, the medical staff cannot be considered a single economic entity for purposes of antitrust analysis (*id.* at 814-17. *But See Cooper v. Forsyth County Hospital Authority, Inc.*, 789 F.2d 278, 281 n. 12 [4th Cir. 1986]).

While other cases have gone even further and held that a nonindependent medical staff can conspire not only with itself but also with its hospital, *see Bolt v. Halifax Hospital Medical Center*, 851 F.2d at 1273 (11th Cir. 1988), the key factor will continue to be whether staff physicians have separate economic interests *from each other*, not from the hospital.

Merely organizing for the purpose of seeking independent legal counsel should not as a matter of law alter a court's assessment of the underlying competitive dynamic among the hospital staff physicians. And

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ironically, even if it did, it would support the conclusion that the physicians were one unit and thus incapable of conspiring among themselves.

In any event (and very significantly), an agreement, combination, or conspiracy among staff physicians cannot properly be inferred merely from their efforts to obtain joint and independent legal advice for the purpose of protecting themselves in future court proceedings. *See* M. Lewyn, "The Admissibility of Evidence Protected by Noerr-Pennington," ABA State Action and Noerr Gazette, vol. 1, issue 2 (1988); *Weit v. Continental Illinois National Bank & Trust Co.*, 641 F.2d 457 (7th Cir.), *cert. denied*, 455 U.S. 988 (1982). Although, arguably, the Noerr-Pennington immunity might not directly apply to retention of independent counsel where future court proceedings are not anticipated, hospital staffs should nevertheless be confident in retaining independent counsel for bona fide legal advice without risking exposure under antitrust laws. Indeed, such counsel may assist hospital staffs in avoiding situations where antitrust exposure might be applicable and, as previously discussed in this article, it is the substance of the conduct and not the form of any arrangement that ultimately controls for antitrust purposes.

Conclusion

In sum, while cooperation between hospital and medical staff reflects the norm, the threat of antitrust action where hospital staff seek to obtain legal counsel and advice is simply misplaced. Hospital staff physicians should feel free to seek independent counsel without undue fear of the antitrust laws. Proper counseling should allay the concerns of antitrust allegations and permit the medical staff to exercise its right to proper legal advice, which in the long run will act to strengthen the relationship between hospital and medical staff and to promote better health care services. Indeed, hospital staff should be encouraged to seek appropriate counsel whenever it is perceived to be suitable under the circumstances. Retention of legal counsel by organized medical staffs should be viewed as a positive action in the changing dynamics of hospital practice.

We invite your comments as well as scientific articles. Write
Letters to the Editor and *Commentary*
MMJ, 1211 Cathedral St, Baltimore, MD 21201

Triplicate Prescription: An Idea Whose Time Has Yet to Come

ANGELO J. TROISI, FACHE; NORBERT PICHA, FACHE; and GERARD E. EVANS, ESQ.

A coalition of Maryland state officials and agencies is considering the introduction of legislation that would enact a triplication prescription program, a concept that dates back almost a half century. To date, only eight states have adopted such legislation, and since 1964, at least sixteen other states have thoroughly examined the concept and rejected it.

The Maryland Medical and Chirurgical Faculty is on record as opposing the triplicate prescription initiative. Such programs have not demonstrated that they reduce prescription drug abuse, but instead, they limit access to necessary prescription pharmaceuticals, have a significant effect on patient pain management, and invade the confidentiality between physician and patient.

How "Triplicate" Works

Under triplicate prescription authority, all practitioners (MD, DO, DDS, DVM, DPM, and so on) who wish to prescribe any Schedule II pharmaceutical products must first register with the state. Once this is done, the following steps must take place:

- A state agency prints on "check-quality" paper triplicate sets of serially numbered prescription forms.
- Next, these forms are individualized by printing the practitioner's name, address, and registration numbers.
- The practitioner must, under law, use these triplicate forms whenever prescribing Schedule II products on an outpatient basis.
- Copy #3 of the set is maintained by the practitioner as a record.
- Copy #2 serves as record for the pharmacy that fills the prescription.
- Copy #1 is mailed to the state agency charged with monitoring the program. From Copy #1, the following information is entered into a centralized computer: practitioner's name, address, and registration numbers; the patient's name, age, and address, the product prescribed and amount prescribed; and the pharmacy's name and address.

Any prescribing over an arbitrary quantity by a practitioner will result in investigation of the practitioner by regulatory and law enforcement agencies.

Mr. Troisi is Executive Director, Mr. Picha is Deputy Executive Director, and Mr. Evans is General Counsel of Maryland's Medical and Chirurgical Faculty.

Finally, according to the proposed legislation, the Secretary of the Department of Health has the authority to add other controlled substances (Schedule III and IV) in the future.

Concerns About "Triplicate"

By targeting practitioners, triplicate prescription legislation assumes a significant degree of involvement by practitioners in drug abuse and drug diversion. While at best, this is a debatable concept, it ignores two basic realities: first, that physicians in this state do participate in the arena of drug prevention in a very significant way and have been working hand-in-hand with regulatory state and federal agencies. Second, targeting physicians can have serious implications in the practitioner's management of pain and can alter the decisions he/she should make for the best treatment of his/her patient. This premise ignores that even "worst-case" arguments cannot account for more than 1 to 4 percent of the total practitioner base ever being involved in any form of misuse of prescription products.

Proponents of triplicate simplistically argue that a reduction in the prescribing of Schedule II products will result in solving prescription abuse. There is no documentation of this. Instead statistical analyses of prescription drug abuse in states that have triplicate prescription program show no significant reduction in Schedule II drug abuse.

Triplicate prescription laws historically have led to explosive increases in use and possible misuse of Schedule III and Schedule IV products. According to the Texas Medicaid program, there was a greater increase in the prescribing of Schedule III products along with Schedule IV products after the triplicate was introduced.

Proposed legislation initially will affect only Schedule II products. Schedule II products represent a very small portion of the prescription drug abuse problem in Maryland; thus, the real target of drug abuse is not being addressed.

Some Schedule II pharmaceuticals are prescribed to manage very severe types of pain, such as cancer and postoperative pain. Historically, underprescribing of these products occurs whenever prescription routines are changed, leaving suffering patients as innocent victims of laws meant to punish others.

As with use of any centralized computer system, breaches in doctor-patient confidentiality are being

risked. According to the DEA, any health or law enforcement officer with access to the system's data will know a patient's name, age, address, the name of the physician and date of visit, the patient's medication, and medication schedule.

According to the DEA, several multiple copy states have reported that only 21 percent to 35 percent of the state's authorized prescribers ordered the prescription blanks or actually prescribed pharmaceuticals affected by triplicate. California reported that only 21 percent of their registered practitioners issued triplicate prescriptions for patients in 1982. A Rhode Island study showed that between February 1979 and June 1984 about 24 percent of their practitioners never reordered prescription blanks. Only 30 percent reordered once. Sixteen percent ordered once a year and only 2 percent more than twice a year.

In these states, what happens to those patients who actually need a Schedule II product if the physician they elect to visit does not possess the triplicate forms?

The DEA also states that thefts and break-ins of practitioners' offices after implementation of triplicate programs is not a problem. However, according to records from the Department of Justice of the State of California, 5,965 triplicate prescription forms were reported lost, stolen, or never received in 1987. In 1987, some 4,784 were reported stolen, lost, or never received. Triplicate prescription forms are reported have to have a street value ranging from $25 to $150. In Texas, it is reported that a single triplicate pad can be sold for $150.

Improper handling or reporting on the prescription forms may carry legal penalties for practitioners.

Alternatives to "Triplicate"

In 1980, the White House Conference on prescription Drug Abuse and Diversion examined these twin problems and called for a coordinated, comprehensive approach that would use existing data and would involve collaborative efforts of health professionals, professional regulatory boards, and law enforcement agencies.

Many states have since adopted solutions or programs, such as PADS or PADS II, which are supported by state practitioner groups and serve to identify practitioner offenders without risking the costs, duplications, potential breaches of doctor-patient confidentiality, and other which the triplicate prescription approach invites.

Several other states have conducted studies in prescription drug abuse and the feasibility of triplicate prescription programs. These studies were unable to determine the scope of abuse or the amount of abuse likely to be eradicated. In Georgia such a study determined that the first-year cost of a triplicate plan would be $702,000; that is almost three quarters of a million dollars!

To date, Maryland has **not** approached the drug abuse issue by convening a statewide effort involving those professional and public groups able to identify the impact of prescription drug diversion and the effects of any legislative plans to correct abuses.

Med-Chi is most willing to participate in a comprehensive, cost-effective effort to reduce diversion, an effort that would not restrict the normal, legitimate practitioner (and ultimately patient) access to vital, controlled prescription products. We hope other groups will join us in this effort.

Painful Prescriptions

These examples are excerpted from an article by C. Stratton Hill, Jr., MD, which appeared in the April 17, 1987 issue of JAMA.

Mary and her husband were looking forward to spending more time together since he had retired. At age 63, however, she developed esophageal cancer. Mary was referred to a cancer center in another city where she was treated with surgery and irradiation. After treatment she continued to have persistent mediastinal pain, which deprived her of sleep and depressed her appetite. Mary lost weight and was always tired and irritable; her daily living activities were a burden. Her family physician prescribed a mild narcotic-containing analgesic that didn't help. On the next visit to the cancer center, a strong narcotic was prescribed that provided adequate relief. Mary slept and ate better and enjoyed life again. When her supply of the narcotic was gone, she requested a prescription refill from her family physician; he refused. He explained that he didn't have the triplicate forms required by state law to prescribe schedule II narcotics, nor did he ever intend to obtain any. He believed that none of his patients needed drugs with an addictive potential. When she again lost weight and sleep because of pain, Mary's husband drove the 225 miles to the cancer center for the effective medication. After several months her pain went away.

Sixty-five year old Bill had recently retired as postmaster of his Midwestern hometown. He continued to be a substantial citizen of his community, despite his diagnosis of rectal cancer. Its recurrence caused severe pelvic pain. Bill was referred to a cancer center where he received chemotherapy and radiation. For pain he was treated with 90 mg of controlled-release oral morphine taken every 12 hours, and adequate relief was achieved, but the pain's intensity increased; eventually 240 mg every 12 hours was required. Bill returned home after his first course of chemotherapy, but soon his supply of morphine was exhausted. He asked his longtime family physician to prescribe more but was told it was impossible for what Bill understood to be "legal reasons." Bill's wife drove him more than 1,000 miles to the cancer center while he suffered excruciating, unbearable pain.

Bonnie's cancer was advanced, and she was under hospice care. Her oncologist treated her pain by delivering morphine intravenously via a portable, programmable infusion pump. The pump and medication were supplied by a home-care service independent of the hospice. The pump held several day's supply of morphine. On her next visit the hospice nurse observed the pump and became concerned about "this much" morphine being in the home. She felt the pump morphine was an enticement for criminal behavior and called the county sheriff. He contacted the oncologist who, wanting to avoid a legal entanglement, ordered the pump discontinued and the resumption of oral and intramuscular narcotics.

I was involved in Mary and Bill's care and became aware of Bonnie's plight through other sources. Most, if not all, physicians are compassionate and want to relieve their patient's pain and suffering. However, some physicians seem to have problems prescribing narcotics for three possible reasons.

First, there is poor understanding of what euphoria and mood elevation actually are: a patient who is pleased because his or her pain is gone is not necessarily euphoric. Second, a patient who needs narcotics at regular, scheduled intervals is not an addict. Requiring a patient with established, chronic pain to ask repeatedly for relief is degrading and dehumanizing. Finally, even if occasional euphoria occurs in some patients, it does not destroy all their previous values or dominate their lives against their wishes and control. A stable individual will probably continue to be stable, free of dependence or addiction, after his or her encounter with narcotics for the relief of pain.

Drug abuse is a prodigious problem in our society, and it is getting worse. The physician is a prime supply target for the drug abuser. The drug seeker with convincing but false symptoms of pain is a real challenge to the practitioner. However, it is preferable for a physician to be occasionally duped than to deny adequate relief to the patient with real pain.

Narcotics are a blessing to our society when used properly. Many myths and misconceptions surrounding their use seem to be perpetuated in the current medical school curriculum. Physicians should reeducate themselves about the proper use of narcotics for pain control and not allow a concern about abuse potential to prejudice professional judgment. The physician has a duty to relieve a patient's pain and suffering, a notion first articulated by Hippocrates.

MED-CHI'S 191st ANNUAL MEETING

April 12-14, 1989
Turf Valley Hotel and Country Club, Ellicott City, Maryland

WEDNESDAY, APRIL 12, 1989

2:00 p.m. Plenary Session - Congressman Tom McMillen

THURSDAY, APRIL 13, 1989

"The Long Term Management of the COPD Patient" - Lewis J. Rubin, M.D., Head, Pulmonary Division, University of Maryland School of Medicine, sponsored by the Maryland Thoracic Society

"Pulmonary Rehabilition" - Edward W. Schaefer, M.D., Chief, Pulmonary Medicine, Liberty Medical Center and Bernard Farrell, M.D., President, Medical Staff, Howard County General Hospital, sponsored by the Maryland Thoracic Society

"Cardiopulmonary Resuscitation - Every Patient's Right - Or Exercise In Futility?" - Speakers To Be Announced, sponsored by the Med Chi Professional Ethics Committee and the Committee on Medicine and Religion

"Are Arterial Blood Gases Obsolete: Reflections On The Evolution Of Patient Monitoring" - John W. Severinghaus, M.D., Professor Of Anesthesiology, Anesthesia Research Center, San Francisco, sponsored by the Maryland Society of Anesthesiologists and the Baltimore Critical Care Society

"Treating The Musicians Among Your Patients" - Richard Lederman, M.D., Ph.D, Director, Medical Center For Performing Artists, Cleveland Clinic Foundation, Cleveland sponsored by the Med Chi Music Medicine Clearinghouse

"The Pen Is Mightier Than The Sword - Prescription Drug Abuse" - Nelson H. Hendler, M.D., Clinical Director, Mensana Clinic, Stevenson sponsored by the Med Chi Committee On Alcoholism and Clinical Dependency, Maryland Academy of Family Physicians, and the Maryland Psychiatric Society

"The Primary Care Physician's Role In The Management Of Acute Coronary Disease" - Henry Meilman, M.D., Union Memorial Hospital, Baltimore and Carl L. Tommaso, M.D., University of Maryland, Baltimore sponsored by the Maryland Academy of Family Physicians

FRIDAY, APRIL 14, 1989

"Coping With Stress In The Physician's Family" - Penelope Ziegler, M.D., Medical Director, Bethany Center, Bethany, Pennsylvania sponsored by the Med Chi Committee On Physician Rehabilitation

"Reanimation Of The Paralyzed Face" - Mark May, M.D., Clinical Professor, Department of Otolaryngology Head and Neck Surgery, University of Pittsburgh School of Medicine sponsored by the Maryland Society of Otolaryngology Head and Neck Surgery

Analysis of an Incompetence Case

ROBERT L. ROTH, ESQUIRE

In recent months various Maryland health occupational boards have come under fire for their response to complaints against particular licensees. While this criticism may or may not be justified, the issue of how to proceed against incompetent licensees is a common problem nationwide. In Maryland's explosion of cases involving malpractice, far more licensees are disciplined for offenses relating to drugs or sex than for incompetence. An approach to make the boards more responsive to the problem of the incompetent licensee is presented.

Courts in numerous jurisdictions have wrestled with the issue of incompetence in recent years and there is a growing body of law in the area. The scope of this article is limited to health professionals. As one may imagine, most of the cases involve dentists and physicians. Notwithstanding the narrowness of the case law, the methodology presented herein should be applicable to any licensed professional.

In this article some common words are used in special ways. The word "acts" is used to include both acts and omissions. The word "incompetence" includes what is also known as "professional incompetence," but it does not include physical or mental incompetence. Finally, the term "disciplinary authority" is used to refer to the unit responsible for disciplining licensees.

Implied in each Maryland health occupational licensing act, although never expressed, is the expectation that licensees will be competent. Competence is implied from the provisions of each act that authorizes the disciplinary authority to discipline licensees who are incompetent. Just as the expectation of competence is not expressed in the law, the law does not provide a definition for incompetence.

The licensing acts generally have five qualifications that must be met before a licensing board will issue a license to an applicant: age, education, examination, experience, and moral character. By adopting age and moral character qualifications, the Legislature would seem to be trying to assure that licensees have reached an age of legal responsibility and that the licensee is deserving of the state's trust. While both age and moral character are essential for licensure, they do not necessarily imply a licensee is competent.

The other three qualifications (education, examination, and experience) seem to relate directly to the competence of the licensee. Of these, education and experience are the crux of what makes a licensee competent. The examination requirement serves as a method for the board to assess education and experience. It can be inferred from the education and experience qualifications that a competent licensee must have a certain amount of knowledge and must have demonstrated the skill required to apply the knowledge to patients.

There is another expectation of licensees, not derived from the licensing law but inferred from laws relating to negligence. By providing a remedy against licensees who cause injury by lack of due care, the law implies the expectation that the licensee will use due care or diligence when practicing under a license.

Accordingly, when trying to understand what constitutes the competent practice of a profession, a good place to start may be the "diligent application of the knowledge and skill necessary to practice the occupation for which the individual is licensed." Incompetence would then be the lack of knowledge or skill necessary for the proper practice of the profession.* This is the definition used in this article. *(Chastek v. Anderson*, 416 NE.2d 24 [Ill. 1981]. Compare, *Dental Examiners v. Brown*, 448 A.2d 881 (ME 1982) and *Pollak v. Kinder*, 85 Cal. App. 3d 833 (1978).)

Incompetence vs. Negligence

In general, each act of incompetence is an act of negligence, but each act of negligence is not an act of incompetence. The negligence standard is based on the identification of a duty and finding a breach of the duty. In matters involving professional licensees, the duty is conceived as the obligation to practice the profession in accordance with the standards for the community in which the professional practices. A breach of the duty is any act that falls below the community standard. Accordingly, the negligence universe contains any act that falls below community standards for the practice of the profession.**

Courts have identified two distinct divisions within the negligence universe. The first division is negligent acts

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*It is interesting to note that licensees who persistently fail to use due care or diligence are disciplined, not for being incompetent, but for "unprofessional conduct."

**Specialization can affect the expectation of competence. An individual who specializes is expected to have more knowledge and skill in a particular area and will be held to the higher standard of the specializing community (*see Board of Dental Examiners v. Brown*, 448 A.2d 881 [Me 1982]). As a result, an individual who claims to be a specialist could be found to be incompetent even though the individual has the knowledge and skill of the nonspecializing or general licensee.

caused by carelessness or a want of due care (*see, Pollak v. Kinder*, 85 Cal. App. 3d 833 (1978) ["remissness"]). The second division is noncareless (diligent) acts that demonstrate a lack of knowledge or skill, i.e., acts of incompetence.

The distinction between these divisions is essential to understanding how the courts have viewed negligent acts. Careless acts are not incompetent acts, therefore multiple careless acts should not be used to justify a charge of incompetence (*see, Chastek v. Anderson*, 416 NE2d 241 [Ill. 1981]). Repetitive careless acts have been used to warrant a charge of unprofessional conduct (*Id.*).

Incompetent Acts vs. Incompetence

For the purposes of this article, it is important to distinguish between an incompetent act and incompetence. An incompetent act is any noncareless act that is caused by the licensee's lack of the knowledge or the skill necessary for the practice of the profession (*see Pollak v. Kinder*). Incompetence is a conclusion made by a disciplinary authority based on a finding of one or more incompetent acts. (*Id.*).

While experts may disagree about whether an act is properly characterized as an incompetent act, the disciplinary authority will decide whether the act was an incompetent act. Having made that decision, the far more difficult duty of the disciplinary authority is to determine whether the act or acts are sufficient to support a conclusion that the licensee is incompetent. The determination of whether an act is an incompetent act is properly a decision for a panel of experts (for example, peer review). However, it is the duty of the disciplinary authority alone to determine whether the act or acts presented warrant discipline based on professional incompetence.

Once the determination has been made that a licensee's negligent acts were diligent acts demonstrating a lack of knowledge and skill, the next step is to determine whether the acts justify a charge of incompetence. Cases in which the courts have agreed with disciplinary authorities on a finding of competence seem to fit into these four groups: single acts, pattern of same act on several patients, several acts on one patient, and several acts on several patients.

Using a single act of incompetence to justify a finding of professional incompetence is not without precedent (*see, Blanchard v. Michigan State Board of Examiners in Optometry,* 40 Mich. App. 320 (1972); *Rosi v. Alaska State Medical Board*, 665 P.2d 28 [Alaska 1983]). It would be fair to say this finding is rare and courts go out of their way to avoid having to make this finding (*see, Kearl v. California Board of Medical Quality Assurance*, 189 Cal. App. 3d 1040 [1986]). In *Kearl*, the court wrestled with the issue of single act incompetence but resolved the case by finding several acts within a single event.

The major issue in single act incompetence cases is the type of sanction that is to be imposed. In *Blanchard,* the Board used the single act to justify a six-month suspension. The courts have agreed with the finding of professional incompetence based on a single act when the sanction is appropriate. The cases in which the courts have supported a single act as a basis for a conclusion of incompetence have been so outrageous as to require extraordinary action (*see, Gibson v. Connecticut Medical Examining Board*, 104 A.2d 890 (1954) where a physician who failed to order tests to confirm diagnosis had a financial interest in the estate of a patient; and *Rosi*, above, where a physician delayed hospitalization for a patient in need of immediate hospitalization).

The "pattern," or the same incompetent act performed on several patients, relies on multiple incompetent acts as a basis for a finding of incompetence. Use of multiple acts is far more typical than single acts in justifying a finding of incompetence. A leading pattern case is *Board of Dental Examiners v. Brown*, 448 A.2d 881 (Me 1982)). This Maine case affirmed a lower court ruling upholding the decision of the board to revoke Dr. Brown's license to practice dentistry (*see also, Gattner v. Whalen*, 419 N.Y.S. 2d 205 [1979]).

Balancing the Sanction

The major issue in pattern cases is the balancing of the incompetence with the sanction. The pattern case occurs when a professional constantly performs the same procedure inadequately. Appropriate sanctions could range from revocation to a license limitation prohibiting the performance of certain acts and imposing education requirements, *Id.*

A licensee's performance of several incompetent acts on one patient has been used as an alternative to finding incompetence based on a single act. In this type of case the disciplinary authority usually will look at a single extreme case (and probably a high malpractice award) and break it into several acts or judgments(see *Kearl*, above). The authority will then aggregate the acts or judgments into a conclusion to support the sanction desired, *Id.*

In using this ground to justify a conclusion of incompetence, the disciplinary authorities often have imposed the sanction of revocation. This type of case has been used when an event has happened that the authority thinks never should have happened and never should happen again. The event should shock the conscience and the acts should show lack of fundamental knowledge and skill.

The prototypical incompetence case often includes several acts on several patients with no apparent pattern and often is used to justify a revocation with no time limitation. This type of case is used for the professional who, in more than one case and in more than one way, has demonstrated a lack of fundamental knowledge or skill. A leading case in this area is *Department of Human Services v. Earle,* 481 A.2d 175 (Me. 1984). Earle was licensed as an emergency medical technician. The licensee neglected to perform two basic functions. Earle's license was revoked.

Issues for Disciplinary Authority

After the disciplinary authority has identified an act of incompetence, the authority ought to consider following several steps: identify the incompetent acts; determine what type of incompetence case the facts present; determine what sanction would be appropriate under the facts; discuss with counsel whether the facts, if proved, could justify the sanction sought; and discuss with counsel the proper foundation necessary for the preparation of the case. An incompetence case will require a board of experts (practitioners) to provide opinions that the acts of the licensee were below the community standard.

An important policy issue for the authority to consider is timing. The types of incompetence cases above include actions based on a single act. The authority ought to consider whether to charge based on a single act. As previously stated, a single act might not justify the same sanction (revocation) as would a multiple act case. However in some cases the authority might wish to act expeditiously to try to prevent future incompetent acts by a licensee in which the authority has no confidence (*see, Rosi v. Alaska State Medical Board*, above, where the practice was limited).

In these types of cases the authority could act immediately and privately by reviewing the licensee's practice. This serves a threefold purpose: it puts the licensee on notice that the authority is paying attention to the licensee's practice, the authority would be acting diligently, and such review would help build the case against the licensee that ultimately could be used to justify a harsher sanction.

Another issue the disciplinary authority may wish to consider is which sanction is most useful in response to the incompetence case presented. It is common for the authorities to consider the incompetence case to be the major ground on which to justify the revocation of a license. Because of this thinking, the authority will spend years collecting material on case after case with bad results -- all to justify litigation resulting in revocation. There are problems with this approach. While collecting cases, earlier ones become stale and remote. In addition, there is something singularly disconcerting about an authority waiting for a licensee to perform another incompetent act; this approach seems to be inconsistent with the authority's duty to protect the public.

Proposed Solution

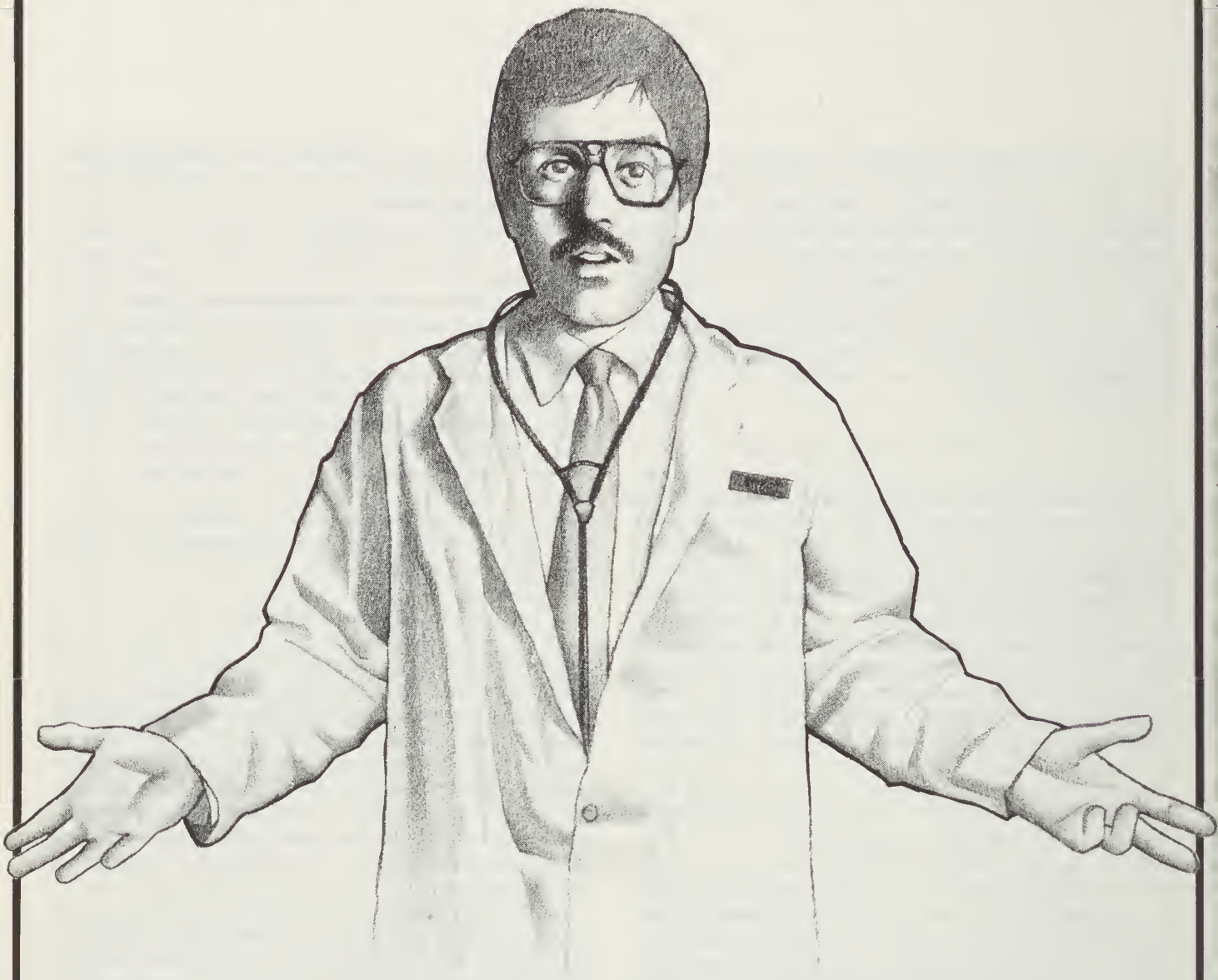
A possible solution would be for the authority to no longer view the incompetence case as a revocation case (*see, Rosi*, above). The authority, once it determines that a licensee has acted incompetently, should begin to monitor the situation immediately and commence peer reviews. While it may turn out that incompetent acts will lead to revocation, the authority loses nothing by beginning to address the incompetent professional as soon as the authority has knowledge of a single act of incompetence.

In analyzing how the courts have responded to incompetence cases in providing a methodology for addressing incompetence cases and in raising some issues for the disciplinary authorities to consider, I cannot help thinking that the incompetence charge has been neglected as a tool for the ongoing task of addressing routine quality issues concerning our health professionals. I hope this article provides some insight into how an authority can use the incompetence case as the everyday justification to protect health care consumers in Maryland.

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State Regulation of Physician Dispensing

JEFFREY I. ZUCKERMAN

The Federal Trade Commission's Bureaus of Competition, Consumer Protection, and Economics are pleased to respond to the request of the Maryland State Board of Medical Examiners for our views regarding the practice and regulation of the dispensing of prescription drugs by physicians.[1] We understand the Board is considering regulations to implement recent legislation regarding physician dispensing (Chapter 691 of the Acts of Maryland, 1986, approved May 27, 1986, effective January 1, 1987). We believe dispensing by physicians and other health care practitioners increases service and price competition among practitioners and between practitioners and pharmacists to the benefit of consumers. We urge the Board to preserve and encourage such competition in any rules and regulations it may adopt concerning the dispensing of prescription drugs by physicians.

Physician Dispensing

The dispensing of medication by physicians is a traditional part of medical practice. Until about 30 years ago, the family physician who made house calls and dispensed medication was a familiar figure. Today, most consumers receive a prescription order from their physician and purchase the prescribed drugs from a pharmacist. Other consumers, often but not exclusively located in rural areas not served by a nearby pharmacy, still purchase medication from their physician. And as competition among physicians has increased in recent years, more physicians have begun offering their patients the convenience of dispensing prescription drugs.

Dispensing by physicians benefits consumers by maximizing the number of qualified sources from which they may purchase prescription drugs, and by enabling consumers to avoid making a separate trip to a pharmacy. The competition resulting from dispensing by physicians may enhance the incentive for pharmacists to offer lower prices and additional services to consumers.

Opponents of physician dispensing allege that it may injure consumers by encouraging physicians to overprescribe or to limit product selection to those drugs available in the physician's office in order to increase revenues. In our view, the physician's desire to maintain a reputation for integrity should reduce such temptations. Even assuming that such incentives exist, restraining an entire category of transactions by physicians is not justified. The fact that some pharmacists may recommend the purchase of vitamins or over-the-counter medications because of their high retail margins does not justify a restraint on the selling of such items by pharmacists. The incentive to abuse dispensing authority for economic gain appears to be no greater than the inducement to overuse any other services offered to patients including, for example, follow-up visits, in-house laboratory testing, or diagnostic imaging. If inappropriate dispensing occurs, it may be dealt with by less restrictive means, such as peer review and law enforcement.[2]

Opponents also argue that physician dispensing eliminates the system of checks and balances by which pharmacists review prescriptions for errors, possible allergic reactions, or potential adverse interactions with other prescription or over-the-counter drugs the consumer may be using. In practice, of course, pharmacists frequently do not conduct such reviews. Moreover, if physician dispensing eliminates the opportunity for pharmacists to "check" for physician prescribing errors, the elimination of medication errors that occur because of miscommunications between physicians and pharmacists (such as misinterpretations of written prescriptions) may be a significant benefit. None of the arguments against dispensing of prescription drugs by physicians presents a compelling case for depriving consumers of the benefits of service and price competition likely to result.

Regulation of Physician Dispensing in Maryland

Physician dispensing has long been permitted by federal and most state laws.[3] In Maryland, physicians have not been prohibited from personally preparing and dispensing prescription drugs.[4] The amendments recently enacted by the Maryland legislature require physicians to apply to the State Board of Medical Examiners, demonstrate to the Board's satisfaction that such dispensing is in the public interest, and obtain the Board's written approval to dispense. In addition, the amendments limit physicians to dispense only to their own patients, require that dispensing physicians not have a substantial financial interest in a pharmacy, and require that dispensing physicians meet certain labeling and record-keeping requirements. The amendments authorize the Board, after consulting with the State Board of Pharmacy, to adopt rules and regulations regarding the dispensing of prescription drugs by licensed physicians.

The statutory requirement that a physician applying for permission to dispense must meet a public interest standard requires the Board to determine what burden of proof will meet this standard. The legislature

Mr. Zuckerman is Director of Bureau of Competition, US Federal Trade Commission. This article is an edited version from the AMA *State Health Legislation Report*, Vol. 15, No. 3 (August 1987) pp. 1-4. (The FTC also has addressed the subject of physician dispensing in two letters to the Georgia Pharmacy Board.)

declined to impose restrictive conditions on applicants. As originally introduced, Senate Bill 830 was hostile to physician dispensing. It contained a preamble purporting to set forth as state policy that (1) dispensing by physicians and certain other health care practitioners should be discouraged if adequate pharmaceutical service is available, (2) such practitioners should derive their income solely from the sale of their professional services, and (3) dispensing by such practitioners should be limited, absent exceptional circumstances, to starter doses. The bill would have required physicians seeking to dispense to demonstrate for the Board that there was a "need" for such dispensing, that adequate pharmaceutical services were unavailable, or that "exceptional circumstances" warranted such dispensing. The legislature considered and rejected all those provisions and required only that the Board find that approval of a physician's application to dispense is in the public interest.

We do not believe the public interest is served by restrictions on physician dispensing designed to protect the economic interests of specific groups or individuals. We recommend strongly that the Board not require a demonstration of "need" for physician dispensing, of "unavailability" of pharmacies, or of "exceptional circumstances." The public interest will be best served by maximizing the number of qualified sources from which consumers may purchase prescription drugs. As discussed above, this will increase consumer choice and enhance the incentive of sellers of prescription drugs to offer lower prices and a wider range of services.

To minimize regulatory impediments to physician dispensing, we suggest that the Board adopt a presumption that, in general, physician dispensing is in the public interest. Such a presumption should operate to permit the routine and expeditious approval of applications, except where the Board believes that there is evidence to rebut the presumption in the case of a particular physician. Applicants should not be required to meet burdensome standards of proof that might impose unnecessary costs or delays, and thus deter physicians from seeking approval.

Conclusion

The Federal Trade Commission actively encourages competition in the health care sector to promote lower prices, higher quality, and an increased variety of available services. Physician dispensing increases competition among physicians, and between physicians and pharmacists, thereby benefiting consumers. We believe the Board would best serve the public interest by seeking to facilitate and encourage physician dispensing in any regulations it may adopt.

References

1. These comments represent the views of the Bureaus, and not necessarily those of the Commission. The Commission, however, has authorized submission of these comments.
2. For example, the Commission on Medical Discipline has the authority to discipline physicians who promote the sale of drugs or goods to a patient "so as to exploit the patient for financial gain." Md. Health Occ. Code Ann. § 14-504(11)(1986).
3. For example, federal regulations permit physicians to dispense controlled substances listed in Schedules II through V (21 C.F.R. §§ 1306.02(b), 1306.11(b), 1306.21(b), and 1306.31(b) (1986)), subject to specific record-keeping requirements (21 C.F.R. § 1304.03(b) and (d)(1986)).
4. Md. Health Occ. Code Ann. § 12-102(b)(1986).

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A PRIMER ON TORT LAW

THEODORE F. HAAS
SCHOOL OF LAW
UNIVERSITY OF NORTH CAROLINA

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For permission to reprint Professor Haas's Primer, the Medical and Chirurgical Faculty of Maryland is grateful to the North Carolina State Goals and Policy Board, its Chairman Governor James G. Martin, and especially its Vice-Chairman Hamilton C. Horton, who saw the need to make the law of torts accessible to the many non-lawyers who are interested in it.

PREFACE

The various legislators, journalists, citizen groups and governmental commissions who have been charged with the task of considering tort reform have lamented the lack of a simple, non-biased and historically based exposition of what tort law is, and how it got to be.

That is the sole purpose of this primer.

We have attempted here to lay out in layman's terms the basic concepts--the vocabulary, if you will--of tort law as it has developed in this country, have given the traditional rationale for it, and have made an effort to explain how the English system and the civil law systems address these same problems of civil wrongs we Americans encounter.

No attempt is made here to argue pro or con. Nor does this primer profess to provide more than a basic understanding. If, however, it assists in ensuring that debate over tort reform is informed by an understanding of how our own system has evolved, and how other Western systems have addressed the same problems, it will have served its modest purpose.

North Carolina State Goals and Policy Board

"Perhaps more than any other branch of the law, the law of tort is a battleground of social theory ...[The] process of 'balancing the interests' is by no means peculiar to the law of torts, but it has been carried to its greatest lengths and have received its most general conscious recognition in this field. The process is not a simple one, and the problems which arise are complex, and seldom easy of solution ....Ultimately the law must coincide with public opinion, and cannot stand against it; but when that opinion is in a state of division and flux, it is not surprising that the courts' decisions reflect the battle which is raging about them."

--William Prosser, The Law of Torts 14-16 (4th ed. 1971)

I. THE TORT ACTION: AN OVERVIEW

The tort action can be defined as follows:

--a lawsuit based on a claim by the person bringing the lawsuit (the plaintiff)
--that he was injured by the person against whom the lawsuit is brought (the defendant)
--and that the way in which that injury came about is such that the defendant should be held liable to the plaintiff, that is, should compensate him for the monetary value of his injury.

The word "tort" means "fault", and in general tort law imposes liability only when the injurer is at fault. For example, if Adams suffers a sudden and unexpected heart attack while driving and loses control of the car, which strikes the pedestrian Jefferson, Adams will not be liable to Jefferson. Adams will not be liable because he was not at fault in driving his car. It is true that he injured Jefferson, and Jefferson's injury is not one whit less severe because Adams was not at fault; nevertheless, Adams is not liable to Jefferson because Adams was not at fault.[1] There are exceptions to the general rule that tort liability requires fault, but we shall postpone our discussion of them.

A. Tort Law Distinguished from Criminal Law and Contract Law

Tort law differs from criminal law in that in tort law a private individual prosecutes the lawsuit rather than a government official. Government provides the courtroom, the judge, the jury (if one of parties wants one) and the law under which the case is decided. It is up to the plaintiff, however, to hire an attorney and to develop the facts that will prove his case. The plaintiff does not have to prove his case beyond a reasonable doubt; it is enough that he satisfies the jury that it is more probable than not the defendant injured him in a way that entitles him to compensation.

Tort law differs from contract law in that it does not depend on the parties having agreed to anything. For example, Fillmore cannot successfully sue Tyler for Tyler's failure to provide him with a partridge in a pear tree unless Tyler and Fillmore had entered into a contract whereby Tyler promised to provide Fillmore with these things. In contrast, if Tyler's failure to watch the road while he is driving results in injury to his passenger Fillmore, Fillmore can successfully sue Tyler in tort for the injuries Fillmore sustained regardless of whether Tyler had ever agreed to watch the road while driving. Tyler has violated a duty imposed by the state--careful driving--rather than one imposed by agreement between the parties.

B. The Goals of Tort Law

Tort law has three basic goals. The first is the resolution of private disputes. In order to vindicate a victim's rights and to channel his impulse for personal vengeance, the state provides a process and a set of rules under which a victim can obtain justice. Thus tort law helps keep the peace.[2] There are classic tort cases in which the loss sustained by the victim is negligible or nonexistent, yet he has a real grievance. A case that almost all law students study in their first year was decided in the year 1348.[3] The defendant wanted to buy wine after the tavern was closed. He beat on the door of the tavern with a hatchet that he had in his hand. When the tavernkeeper's wife put her head out of the window and told him to stop, he swung the hatchet at her but did not hit her. Despite not being struck, she was held to have a cause of action against him. Money was not really at stake--she was awarded nominal damages--what was at stake was vindication of her right not to be assaulted.

The second goal of tort law is compensation. A society has several options regarding the victims of accidents.

It can choose simply to let the loss lie where it falls--the victim and his family are left to cope with the injury as best they can.[4]

Or it can provide mechanisms whereby persons can insure themselves against loss.[5]

Or it can provide a government-administered safety net for poor persons whether the cause of their poverty is accidental injury or something else.[6]

Or it can require, through its tort law, that those who injure others compensate them.[7]

Tort law does not require that every accident victim be compensated but provides that in a limited set of circumstances victims should be compensated by their injurers. What that limited set of circumstances is will be developed below. For now, let us assume that we have such a case--for example, Adams negligently runs down and injures Jefferson, who is properly crossing the street. Adams is required "to make the victim whole"--to restore Jefferson to the position he was in prior to the injury.[8] Adams must pay for the medical expenses, the lost earning capacity and for the pain and suffering Jefferson experiences because of Adams' negligence.

Traditionally, tort law was the only means by which victims were compensated for their injuries and diseases. Otherwise the victim and his family were left to bear the loss alone. Insurance, public and private, against personal injury is a fairly recent development.[9] But with the widespread availability of public and private insurance, the question may now be asked whether tort liability is the most effective means of compensating victims. In this regard, it is interesting that New Zealand has generally abolished tort liability, and victims are compensated through public insurance.[10]

A third goal of tort law is accident prevention. If people are required to compensate those they injure, they will have the incentive to take safety precautions in order to avoid such liability and this, in turn, will reduce the number of accidents.[11] For example, Hayes operates a baseball park with a 10-foot fence. While walking on a street beside the park, Tilden is struck by a foul ball from the park and seriously injured. If Hayes is required to compensate Tilden for his injuries, Hayes will have an incentive to increase the height of his fence in order to avoid the recurrence of such liability. If the extent of such prospective liability can reasonably be estimated at $10,000 and the cost of the additional fencing to prevent such injuries at $8,000, it is reasonable for Hayes to install the additional fencing. If, on the other hand, a reasonable estimate of future liability is $2,000, and the cost of preventive fencing is $8,000, such preventive measures are not worth taking, certainly from Hayes' point of view.

The three goals of dispute resolution, compensation, and accident prevention generally reinforce one another, but all three are not necessarily present in a given case. For example, a victim whose insurance covers his injury-related costs still has a tort action against the injurer. The compensation goal is not significant in this case, but the dispute resolution and accident prevention goals are.

C. The Tort Action's Five Basic Questions

A tort action involves five basic questions. The first question is whether the defendant is liable to the plaintiff at all, that is, whether the defendant must provide any compensation to the plaintiff. The second question deals with the monetary value of the plaintiff's injury. The third question deals with the apportionment of compensation. Should a defendant who has been found liable be required to pay for the entire amount of plaintiff's damages? The fourth question deals with punitive damages. Should a defendant be required to pay an amount of money not in order to compensate the plaintiff for his injury but in order to punish the defendant for especially wrongful behavior? The fifth question deals with the costs of the lawsuit itself. Who should pay these costs, in particular the legal fees? More broadly, is the traditional lawsuit too expensive? I shall take up each of these questions in turn.

II. IS THE DEFENDANT LIABLE?

In order for a defendant to be found liable in a tort action, the plaintiff must prove:

(1) that the defendant owed him a duty;

(2) that the defendant breached that duty;

(3) that the defendant's breach of that duty injured the plaintiff; and

(4) that the injury resulted in damage to the plaintiff.

The defendant defends by attempting to disprove any or all of these points. In addition, the defendant has various other defenses. He may prove:

(1) that the plaintiff agreed to accept the risk that the defendant would negligently injure him (Assumption of Risk);

(2) that the plaintiff's own negligence contributed to the plaintiff's injury (Contributory Negligence); and

(3) that the defendant is immune from tort liability, either in general or to this particular plaintiff.

A. Elements To Be Proved by the Plaintiff

(1) Duty. The first requirement of tort liability is that the defendant owe a duty to the plaintiff. In the usual case--whether it be professional malpractice, a driving accident, or a malfunctioning product--this requirement is unproblematic. But there are certainly cases in which the courts have held that the defendant did not owe the plaintiff a duty even when the defendant's action or inaction injured the plaintiff. For example. Pierce rents a canoe to Buchanan for use on Pleasure Lake. While paddling about, Buchanan tips the canoe over. He hangs onto the side of the canoe for half an hour continually shouting for help. Pierce hears Buchanan's shouts knows that he is in distress, but does nothing. After half an hour, Buchanan is unable to hold onto the canoe and drowns. Pierce is not liable to Buchanan because he has no duty enforceable under tort law to rescue him.[13] Although many people would find Pierce's behavior reprehensible, tort law generally does not impose a duty on a person to come to the aid of another.

Even when one person does owe another a duty, the nature of that duty remains to be decided. Consider, for example, the facts of a classic tort case: Kendall and Brown are out walking their dogs when the dogs get into a fight. Kendall attempts to separate the dogs with a stick. In the course of this operation, as he raises the stick over his head, he strikes Brown in the eye.[14]

Was Kendall s duty not to hit Brown intentionally? not to hit him carelessly? not to hit him at all?

If the nature of Kendall's duty to Brown was to refrain from hitting him intentionally, then Kendall did not fall short of his obligation--he did not breach his duty. Kendall was raising the stick in order to hit the dogs, not in order to hit Brown. If, on the other hand, Kendall's duty was to refrain from striking Brown at all, then Kendall did breach his duty. Or the extent of Kendall's duty may have been something in between these two. The mere striking of Brown may not have been a breach of his duty, but if the striking was careless or negligent--even if it was unintentional--that may have been a breach of Kendall's duty to Brown.

Brown v. Kendall, which was decided by the Supreme Judicial Court of Massachusetts in the mid-nineteenth century, is a significant case because it changed the nature of duty one person owed another.[15] Prior to Brown v. Kendall, the rule was that when one person hit another, he was liable for any injury he caused. This was a rule of "strict liability."[16] Brown v. Kendall states that an injurer is liable only if he is negligent. Nor was the

rule of Brown v. Kendall confined to dog-fight cases. It was applied to the whole host of injuries that had been ushered in with the high-speed, massive machinery of the industrial age.[17]

But the negligence was not a universal requirement. The courts held that in certain kinds of cases, those in which the defendant's activity was "ultrahazardous" or "abnormally dangerous," the defendant would be strictly liable for injuries caused by his activity.[18] Recall the earlier example of Adams' heart attack while driving. He was not liable to Jefferson because he was not at fault. However, if Adams had been driving a tank truck full of gasoline when he suffered his heart attack, and the truck had ruptured and spilled gasoline over the road and the gasoline had caught fire and injured or killed Jefferson, liability would be imposed on Adams despite his being free from fault.[19] That is because the transportation of large amounts of flammable material is an activity that the law considers to be so ultrahazardous or abnormally dangerous that liability is imposed without fault.[20]

One of the major developments of tort law in the last quarter century was the extension of strict liability to injurious products. Many states, not including North Carolina, hold a manufacturer liable for injuries caused by its products if the products are defective and unreasonably dangerous whether or not the manufacturer was negligent.[21] It must be said, however, that the requirements of defect and unreasonable dangerousness have made this branch of strict liability resemble negligence more than do some other branches, such as abnormally dangerous activities and workers compensation.[22]

(2) Breach of duty. In the typical lawsuit, the dispute is not over the nature of the defendant's duty, but rather over whether he has breached his duty. The defendant does not disagree that he had a duty to refrain from negligence, but he does disagree that he was negligent. For example, Adams, who is babysitting three-year-old Quincy, leaves him alone in the house watching television while she returns a step-ladder to the next door neighbor. During Adams' absence, Quincy leaves the house and is struck by a bus when he darts in the street. Adams has duty to supervise the child non-negligently, and it probably would have been safer to have carried Quincy with her when she returned the ladder, but was Adams negligent in leaving Quincy alone in the house?

In the usual tort case, the question of whether the defendant's conduct amounted to a breach of his duty is a question for the jury. The jury not only decides what happened--whether, and for how long Adams left Quincy alone--but whether what happened amounted to negligence--was it negligent for Adams to leave Quincy alone for as long or short a time as she did. There are, to be sure, some cases in which the judge may decide that reasonable persons could not differ on the question of whether the defendant's actions were negligent and decide the matter himself.[23] And there are other cases in which the defendant has violated a safety regulation, and again the question of negligence is no longer put to the jury.[24] The jury will be asked to decide whether the defendant was driving over 25 mph on a road with a posted speed limit of 25 mph, but not whether such action constitutes negligence. The government has already decided that it does. In general, however, the jury has a fairly free rein in deciding what behavior constitutes negligence.

(3) Causation. The plaintiff must further prove that the defendant's breach of duty caused the plaintiff's injury. In many cases, this may not be problematic, but in some it is. For example, Farfield is speeding and runs down Arthur, killing him. However, Arthur had darted into the road, so that even if Garfield had not been speeding, he would have run down and killed Arthur.[25] Therefore, although Garfield's driving did in fact result in Arthur's death, Garfield's negligence--his speeding--did not because Arthur would have been killed even in the absence of speeding. In such a case, Garfield would not be liable even though he was negligent.

Even when the defendant's negligent conduct in fact causes an accident, the plaintiff's case may fail because the causal connection is not close enough. For example, Pierce is driving his bus too fast and is ahead of schedule. It is a very windy day and an old oak is uprooted and falls on the bus injuring Buchanan. Undoubtedly, Pierce's speeding was a cause of the accident. The bus would not have been in a position to be hit by the tree but for the speeding. However, speeding does not increase the risk that trees will fall on the speeding vehicle. The causal connection between the negligence and the injury is thus not close enough--in legal terms, it is not "proximate."[26]

(4) Damages. When the defendant breaches his duty to the plaintiff and thereby causes him only some

inconvenience or irritation, the defendant is not liable to the plaintiff if the plaintiff has not sustained some "damages." If, for example, the acrobatic Arthur is able to jump out of the way of Garfield's speeding vehicle and thereby save himself from any injury, Garfield is not liable to Arthur despite the fact that Arthur may have had a momentary scare and have been justifiably angry at Garfield. De minimis non curat lex is the law's Latin response to this situation: "The law is not concerned with trifles." (An exception to this rule is when there is an intentional tort, as in the old case of the hatchet swung at the tavernkeeper's wife noted above.)

B. Affirmative Defenses

As I have previously stated, there may be a dispute in a given lawsuit about any one of the issues just discussed--duty, breach, causation and damages. The plaintiff loses unless the court decides that it is more probable than not that the defendant breached his duty and that the breach caused the plaintiff damage. Even if the plaintiff is successful in this, the defendant is not without recourse: He may prove one or another affirmative defense. With the affirmative defenses, the defendant is no longer denying some claim of the plaintiff's--for example, "I was not exceeding the speed limit"--but is now stating something affirmatively--"the plaintiff was crossing the street negligently."

(1) Assumption of risk. One such affirmative defense is based on consent. Hayes runs a drag-race track, and Tilden is one of his customers. As a condition of using his track, Hayes requires that his customers enter into a written contract agreeing not to sue him for negligence. Tilden enters into such an agreement and is injured during a race when he runs into a 36-inch, 100 pound cylinder head left on the track from the previous race. Hayes' employees had negligently failed to remove or to discover this dangerous debris.[27] Despite Hayes' negligence, Tilden is barred from recovery because of his agreement. He had "assumed the risk." The Latin phrase is volenti non fit injuria ("There is no injury to the willing").

(2) Contributory negligence. Another affirmative defense is "contributory negligence". Forrester is repairing his house and leaves a pole extending into the road. The pole is visible at a distance of 100 feet and can be avoided with the exercise of care. Forrester's act is obviously negligent. However, Butterfield comes down the road at an excessive speed and collides with the pole seriously injuring himself. Butterfield is himself negligent in failing to use due care regarding his own safety.[28] Under traditional law, such negligence on the part of the victim--called "contributory negligence"-- was a "complete defense," that is, the defendant was found not liable to the plaintiff.[29]

In the last couple of decades most states have rejected this all-or-nothing approach.[30] The plaintiff's negligence is taken into account to reduce the amount of damages to which he is entitled, but it does not totally bar his recovery. This approach is called "comparative fault" or comparative negligence." North Carolina is in a distinct minority of states that still gives contributory negligence the effect of a complete bar.[31]

(3) Immunity. One other noteworthy defense is that of immunity. Here the defendant may grant for the sake of argument that he negligently injured the plaintiff and that the plaintiff neither assumed the risk of such injury nor failed to exercise due care with regard to his own safety; nevertheless, the defendant maintains that he is not liable because he is immune.[32] Such immunities traditionally existed between family members and also protected charitable institutions such as hospitals as well as governmental bodies and officials. In general, modern tort law has tended to eliminate or restrict such immunities.[33]

III. WHAT IS THE DOLLAR VALUE OF THE VICTIM'S INJURY?

Injury inflicts three kinds of losses on victims and their families:

(1) additional expenses, chiefly medical expenses;
(2) lost earnings;
(3) pain and suffering.

The chief difficulty with the first two kinds of losses arises in cases in which these losses are expected to continue after the lawsuit has been completed. Because a lawsuit is a once-and-for-all affair, the court must estimate what losses the victim will incur in the future and what the present value of those future losses is. It is theoretically possible that the lawsuit could be kept open for periodic assessment of the victim's losses, but that possibility has not been adopted.

Greater controversy surrounds awarding damages for pain and suffering. Although there is no doubt that victims suffer some pain and suffering when they are injured, it is difficult to determine the extent of another's pain and suffering and further to translate pain and suffering into money. Unlike damages for expenses and lost income, where the court is replacing money with money, damages for pain and suffering replace a non-monetary loss with money. Although these are formidable difficulties, not providing the victim with any monetary compensation for his pain and suffering because of these difficulties insulates the injurer from paying for a loss that he has wrongfully inflicted on another.

There are various possible answers to the question of whether pain and suffering should be compensated. One is to bar damages for pain and suffering. Workers' compensation, for example, does not compensate for the victim s pain and suffering.[34] Another solution is to put an arbitrary cap on pain and suffering damages.[35] Still another is for the court to exercise stringent oversight on the award of pain and suffering damages. The court can require the jury to specify the amount it is awarding the plaintiff for pain and suffering (rather than permit it to render an undifferentiated general verdict)[36], and then the court can exercise its power of remittitur in those cases in which it determines that the amount awarded for pain and suffering is excessive. Remittitur is the court's power to give the plaintiff the option of re-trying the case or accepting an amount less than that awarded by the jury.[37]

IV. WHO PAYS THE VICTIM--AND HOW MUCH?

Adams is held liable to Jefferson, and the monetary value of Jefferson's injury is found to be $100,000. Is Adams liable to Jefferson for the entire $100,000? The basic answer is "yes" because the goal of tort law is to make the victim whole--in other words, to shift all of the loss from the victim to the injurer. However, as the quotation at the beginning of this primer states, tort law is concerned with a balancing of interests. Thus tort law is also concerned about not imposing a devastating liability on a defendant when the victim can otherwise be compensated and about fairly apportioning losses between plaintiff and defendant as well as among defendants if there are more than one.

No liability--victim relegated to his own insurance. The tort system is not the only means of compensating victims in American society. The victim may have insured himself against such loss either individually or through a group. In addition, government services may be available to the victim. The question arises whether the victim should be required to look entirely to these other sources of compensation or whether his damages should be reduced by the amount he receives from these private and public sources.

In a century-old railroad fire case from New York, the highest court of that state established a first-structure rule. That rule provided that although a negligently caused railroad fire did in fact burn a large number of structures, the railroad was liable only for the first structure. The key justification for the court's position was that "(i)n a commercial country each man, to some extent runs the hazard of his neighbor's conduct, and each, by insurance against such hazards, is enabled to obtain a reasonable security against loss. To neglect such precaution, and to call upon his neighbor on whose premises a fire originated, to indemnify him instead, would be to award a punishment quite beyond the offense committed."[38]

The justification combines several points. First, the benefits of commercial development (including railroads) are widespread. In accepting such benefits, the members of such a society can be expected to bear the associated risks. Second, the equity of this position is emphasized by the widespread availability and use of fire insurance. Third, it is better to spread the loss among many, than to impose it on a single entity (the railroad). The New York court was willing to deny liability entirely to some victims in order to protect the defendant from potentially devastating liability.

Collateral source rule. As a less stringent alternative to the denial of any compensation, the defendant's liability could be diminished in an amount equal to those benefits the plaintiff actually receives from other sources, such as his own insurance. For example, Pierce negligently injures Buchanan, and Buchanan suffers losses amounting to $100,000. Buchanan's insurance will pay for $50,000. Should Pierce be liable to Buchanan for the entire $100,000 or only $50,000? Remember the goal of tort law is to make the victim whole. If Pierce is liable for $100,000 and Buchanan collects $50,000 in insurance, then Buchanan receives a total of $150,000 as a result of his injury. Some argue that this amounts to a windfall for the victim. If Pierce is liable for only $50,000 and Buchanan receives $50,000 in insurance benefits, then Buchanan receives a total of $100,000 as a result of his injury. This second result appears to some to be more consistent with the goal of tort law.

Several points may be made in response. First, it is preferable for the victim Buchanan to receive a windfall than for the injurer Pierce to pay less than the full value of the loss he has inflicted. Recall the point made earlier that liability may serve an accident-prevention function even when the compensation function is otherwise satisfied. Second, the first point is strengthened when Buchanan's collateral sources are the result of his own thrift and prudence, as when he has paid for health and accident insurance. The plaintiff, not the defendant, should receive the benefit of the plaintiff's prudence. Third, the provider of the collateral source will typically have contracted with the victim that the provider will be subrogated to the victim's claim against the injurer. For example, Harrison and Polk enter into an insurance contract whereby Polk, the insurer, agrees to pay Harrison's medical expenses should Harrison incur them. The contract also provides that Polk is subrogated to any tort claim that Harrison has arising from the injury that results in medical expenses covered by the insurance contract. Taylor negligently injures Harrison causing him to incur medical expenses of $30,000. If Harrison obtains a tort judgment against Taylor for $100,000, Polk, the insurer, is entitled to reimbursement of $30,000 from Harrison. Therefore, Harrison would not obtain a windfall. He would receive no more than $100,000, consisting of the $30,000 he obtained from his insurer Polk and his $70,000 share of the tort judgment against Taylor.[39]

The traditional response of tort law has been the "collateral source rule," which states that the defendant's liability should not be reduced because plaintiff has received compensation for his injury from other, collateral sources--that is, sources other than the defendant himself.[40]

Limited liability--workers ' compensation. Workers' compensation, an off-shoot of tort law, is a somewhat different example of an injurer's not being required to make good all of the victim's loss. Unlike the railroad case which denied liability, workers' compensation does provide compensation. It does not, however, fully compensate for wage loss and provides no compensation for the victim's pain and suffering. To be sure, the victim receives a countervailing benefit in that he is entitled to compensation whether or not the employer was negligent.[41]

There are other rules of tort law--actual or proposed--that result in the plaintiff's receiving only partial compensation. These include comparative negligence as well as the elimination of joint and several liability.

Comparative negligence. The traditional tort rule was that the victim's own negligence barred him from recovery: the defendant would not be liable to him at all. In the past twenty years, many states have exchanged this traditional all-or-nothing rule for "comparative negligence." Under a rule of comparative negligence, a negligent victim is not barred from recovery, but the amount of his recovery is reduced because he was partially at fault. For example, Jefferson's losses are valued at $100,000, and Jefferson is found to be 25 percent at fault. He would be entitled to recover only $75,000 from Adams.

Joint and several liability. In some cases more than one defendant is found liable to the plaintiff. For example, Madison and Monroe collide because each is driving negligently and as a result Jackson, a pedestrian, is injured. Jackson's injury is valued at $100,000. Typically, Madison and Monroe are each liable to Jackson for the entire $100,000. "Joint and several liability" is commonly used to refer to this situation--that is, where a plaintiff obtains a judgment for the entire amount of his damages against each of several defendants. Thus, Jackson is not entitled to collect more than a total of $100,000, but he is entitled to recover the entire amount or any lesser amount from either Madison or Monroe.[42]

Traditional tort law did not permit contribution among joint tortfeasors.[43] If Jackson chose to collect the entire $100,000 from Madison, Madison would not be entitled to collect any portion of that from Monroe despite the fact that Monroe was no less liable to Jackson than was Madison. That traditional rule has been modified so that contribution among joint tortfeasors is permitted. The amount of contribution can be determined in one of two ways. The first is simply to divide 100 percent by the number of tortfeasors. If there are two tortfeasors, the share of each is 50 percent; if four tortfeasors, 25 percent.[44] The other method of determining contribution is by relative fault.[45] The trier of fact would be permitted to find, for example, that Madison was 75 percent at fault and Monroe 25 percent at fault. In that case, if Madison paid the entire $100,000 to Jackson, Madison would be entitled to receive only $25,000 in contribution from Monroe.

The fact that tort law permits contribution among joint tortfeasors does not necessarily abolish joint and several liability. In the case we have been discussing, Madison and Monroe are each liable to Jackson for 100 percent of Jackson's injuries. Their rights of contribution are against one another; they do not limit their liability to Jackson. Thus if one of the tortfeasors is judgment-proof--that is, if he is able to avoid paying the judgment either because he is bankrupt or because his assets are beyond the reach of the court--his being judgment-proof does not prevent the plaintiff from recovering the entire judgment from another defendant. In other words, the risk of a joint tortfeasor's being judgment-proof falls on his fellow tortfeasors and not on the plaintiff.

Some have maintained that the plaintiff should bear the risk of a tortfeasor's being judgment-proof. Thus if Madison is held 75 percent at fault and is judgment-proof, Jackson would be entitled to recover only 25 percent of his total damages from Monroe, or $25,000. Hardship is unavoidable in this situation. Either Jackson must wind up with considerably less than the monetary value of his loss or Monroe must wind up paying considerably more than his fair share. The traditional answer has been that the risk of a judgment-proof defendant should fall on a wrongdoer rather than on the innocent plaintiff.

This traditional answer is placed under substantial pressure in two situations. The first is where the judgment-proof defendant is by far the greater wrongdoer. If Monroe is found to be 10 percent at fault, is it fair that he should pay the entire amount of the judgment? The other situation in which the traditional rule is questionable is where the plaintiff is found to be at fault. This situation considerably weakens the justification that it is better that a fellow wrongdoer bear the risk of a judgment-proof tortfeasor rather than the innocent plaintiff because the plaintiff has been found to be at fault as well. Although comparative fault does not necessarily entail the abolition of joint and several liability, it tends to suggest that both the plaintiff and the defendants should bear the risk of a judgment-proof defendant. Assume that the plaintiff Jackson suffers a loss of $100,000; that he is found to be 10 percent at fault, the defendant Madison 40 percent at fault and the defendant Monroe 50 percent at fault; and that Monroe is judgment-proof. Arguably the equitable solution is for Jackson and Madison to pick up Monroe's share in proportion to their fault relative to one another. Thus Jackson would pick up one dollar for every four that Madison picks up. The result would be that Madison would pay his own share ($40,000) plus four-fifths of Monroe's share (4/5 x $50,000=$40,000) for a total of $80,000.

A principal focus of the tort reform of the 1980s has been in this area of tort law. Tort reform proposals typically include the abolition of joint and several liability and the collateral source rule. In addition, comparative negligence has been continually under consideration in North Carolina throughout this period.

V. SHOULD FLAGRANT WRONG BE PUNISHED BY CIVIL COURTS?

Punitve damages are damages awarded to the plaintiff over and above the amount required to compensate him for the value of his injury. Their purpose is to punish the defendant for especially wrongful behavior.[46] They are awarded in an amount to make the defendant sit up and take notice, and thus the wealth of the defendant is to be taken into account in determining the amount of punitive damages.

Some question whether punitive damages should be available in tort law. They maintain that the goal of tort law is to make the victim whole, and that compensatory damages do just that. If the defendant is to be

punished, that should be done through the criminal law with the additional safeguards provided defendants under that law, and payment should be made to the government rather than to the fully-compensated plaintiff. Some jurisdictions, England among them, have virtually eliminated punitive damages, reserving them for very special cases as where there is oppressive, arbitrary, and unconstitutional conduct by a government official.[4]

VI. WHO PAYS FOR THE LAWSUIT?

The tort system is generally perceived as comparatively inefficient, with less than 50 percent of the liability insurance payout going to the victims.[48] Alternative forms of dispute resolution or alternative forms of compensating victims are attractive if they accomplish roughly the same goals at substantially lower cost.

Another principal cost-of-litigation issue is the costs of the litigation to the parties. The losing party is typically ordered to pay the court costs of the winning party, but those costs do not include attorney's fees, which are in fact the biggest part of a party's litigation costs. The general rule in the United States is that each party pays his own attorney.[49] This rule undermines the general goal of tort law to make the victim whole. Thus if Jefferson's injury is valued at $100,000 and his attorney's fees are $30,000, Jefferson winds up with considerably less than the full value of his injury.

This discrepancy between the gross and net award is often appealed to as a basis for justifying various damage rules, including damages for pain and suffering, the collateral source rule, and punitive damages.[50] It may be more forthright to deal with the problem by awarding, as do the English, reasonable attorney's fees to the prevailing party. Certainly, when these costs are awarded to the plaintiff, it represents an accurate recognition that the defendant's negligence has imposed these costs on the plaintiff no less than it has imposed medical costs on him.

The final issue involves the "contingent fee." American law permits tort litigants to enter into contingent fee contracts with their attorneys, whereby they agree to pay the attorney a percentage of the amount they recover by way of settlement or judgment. Thus if the plaintiff receives nothing, the attorney receives nothing. There are two general concerns in this area. First, some are concerned that the contingent fee encourages litigation to too great an extent because the plaintiff is not checked by the risk of being out-of-pocket if his lawsuit is unsuccessful. It is said in response that the plaintiff's attorney himself provides a check on the plaintiff's desire to sue because he is unlikely to take cases that he doesnot think likely to provide him with a sufficient return for the work he puts into them.

The other concern is whether the attorney's share is too large. The typical justification is that the attorney earns his fee because the plaintiff is better off with an attorney than without one and that he would be unable to afford an attorney but for the contingent fee arrangement. That argument ignores that many valuable services--for example, insurance, utilities--are regulated. The key issue is whether there are differences in bargaining power between the parties that are so substantial as to put the potential client at an unfair disadvantage. It is noteworthy that some states have regulated contingent fee arrangements by establishing schedules of permissible marginal rates.[51] On the other hand, Americans have a longstanding and deep-seated reluctance to interfere with the market.

VII. THE SPECIAL CASE OF MEDICAL MALPRACTICE

The practice of medicine, like other professions, involves knowledge and skill that are not generally found in society. Not only do physicians receive extensive training before they are licensed to practice medicine, but the medical profession is continually developing new information and new techniques regarding injuries and diseases and their treatment. When people obtain treatment from a physician, tort law requires that they receive the benefit of such expert knowledge and skill. They are entitled to not simply the care that an ordinary person could provide but to the care that a highly trained professional should be able to provide.[52] Not that the law holds the physician strictly liable for any undesirable results of treatment: liability depends in this situation as in others upon the victim's showing that the physician was negligent.[53]

A. Standard of Care

A special problem that medicine presents to tort law regards the standard of care to be applied in order to determine whether the physician was negligent. We certainly expect the physician to be more knowledgeable and skillful than a layperson, but just how knowledgeable and skillful do we expect him or her to be? This problem of the proper standard of care is compounded by the jurors' ignorance of the practice of medicine. In order for the jury to determine whether the defendant was negligent, it cannot, as in most cases, rely on its own collective experience but must depend on being informed by an expert on what is proper medical practice in a particular case. This compound problem makes actions of alleged medical malpractice different from other kinds of negligence actions and results in certain exceptions to the usual negligence case.

Tort law does not generally consider the customary practice of a group as conclusive evidence of what constitutes due care in a particular circumstance. As Justice Holmes put it: "What usually is done may be evidence of what ought to be done, but what ought to be done is fixed by a standard of reasonable prudence, whether it usually is complied with or not."[54] An exception to this general rule is the case of alleged medical malpractice, where customary practice does provide the standard.[55] A principal reason for this exception is that laypersons have no reliable information about what a physician should do; therefore, they must be guided by expert opinion, and that expert opinion is based on the customary practice of the profession.[56] Consider, for example, the question: "Is it negligent to pack Surgicel tightly around the spinal cord in an attempt to stop extensive internal bleeding?"[57] Most adults would feel utterly incompetent to answer that question. They have undoubtedly dealt with external bleeding and have used bandages and perhaps even a tourniquet, but extensive internal bleeding is outside their experience. Beyond that, the word "Surgicel" means very little. One may deduce that it is something used to stop bleeding, but what its properties and especially its risks are, are completely unknown to most adults. Because the jury is incompetent to determine the question at issue on the basis of its own collective knowledge and experience, the plaintiff must present a medical expert to testify that the physician's treatment was negligent in order to avoid the judge's dismissing his case. The expert will testify not in terms of what he personally would have done in the defendant's position but whether what the defendant did was in accordance with customary practice.[58] Of course, there will be some cases in which laypersons will not need to rely on an expert in order to determine that the defendant did not exercise due care, as when a surgeon closes an incision and inadvertently leaves a sponge or part of a test tube inside the body.[59]

Customary practice can be specified by kind of practice and by location. As to kind of practice, a general practitioner will be held to the standard of the customary practice of general practitioners and not to the customary practice of specialists.[60] And so long as society permits a certain kind of health provider to practice, he is held to the customary practice of the particular school to which he belongs. Thus chiropractors and podiatrists are held to the customary practices of their respective schools and not to the customary practice of physicians.[61] As to location, there has been a longstanding distinction between a local standard and national standard. The local standard has two versions. One is a "strict locality" standard, which is the standard of care provided by physicians in the defendant's own community.[62] The other is the "similar locality" standard, which is the standard of care provided by physicians in the defendant's own community or in a similar community.[63]

In contrast to both local standards is the "national" standard, which does away with geographical considerations in determining the proper standard of care.[64] The rationale of the strict locality standard, which was first enunciated in cases decided in Kansas and Iowa in the early 1870's, was that it was unfair to hold the rural and small town practitioner to the same standard as the urban physician because the former had fewer opportunities for developing his skills.[65] The rule was challenged on three grounds. First, when the defendant was the sole practitioner in a community, his standard of care was the community standard of care.[66] Second, even when there were other practitioners in the community, a "conspiracy of silence" among them could prevent the plaintiff from obtaining expert testimony.[67] Third, changes in the education and the continuing education of physicians in the past century have made the rule out of date.[68] Early medical education consisted of lectures over six months followed by apprenticeships with physicians with even less formal education. Today, of course, the training of physicians is much more extensive, and a national accrediting system has contributed to the standardization of medical education. Moreover, vastly improved transportation anand and communication have greatly reduced, if not eliminated, the isolation of the rural practitioner from the urban.

The similar community standard answers the first two criticisms of the strict locality standard in that it permits physicians who are not personally acquainted with the defendant to testify for the plaintiff. But it does not address the third. Thus a national trend toward the national standard developed until it was curtailed by legislation enacted in response to the medical malpractice crisis in the mid-1970's.[69] Legislation in North Carolina has enacted the same or similar community standard, thereby forestalling the possibility of judicial adoption of a national standard.[70]

B. Informed Consent

It is a general rule of tort law that to touch another person in an offensive or harmful manner is wrongful--it amounts to what is called a battery.[71] However, touching that would otherwise amount to a battery may not be a battery in a particular situation because the person touched has consented to it--explicitly or implicitly. Thus it makes all the difference whether the jarring tackle a runner receives occurs on a football field or in an airport. In the former case, he consents to the risk of being tackled; in the latter he does not.

In the medical context, a physician may be liable to a patient for a battery if he has not obtained the patient's consent to perform a procedure or operation.[72] There are some cases, however, in which the physician has obtained the patient's consent, but the patient did not really understand what he was consenting to. The physician's obligation to the patient includes providing him with sufficient information so that the patient can give his informed consent. If the physician fails to provide the patient with sufficient information, he may be liable for negligence.[73]

Here again the issue of the proper standard of care comes into focus. Is the physician obligated to provide information that is customarily provided by physicians of his type of practice in his or a similar locality, or can the court examine the reasonableness of the physician's actions regardless of the customary practice? Some courts have stated that the patient's right to know should not be limited by customary medical practice.[74] Because it is the patient's body, the patient should make the decision for himself and not have the decision made for him by the physician either directly or indirectly by not providing him with all the information the patient needs in order to make the decision. This view emphasized patient autonomy over professional discretion.[75]

CONCLUSION

The law of torts is a highly developed body of law. At virtually all law schools, the first year student spends many class hours investigating its complexities. The principal one-volume treatise of the subject is over a thousand pages long, and there is a much longer multi-volume treatment of the subject. It goes without saying that this primer does not pretend to have fully explored the subject. Nevertheless, I hope that the reader will come away with a comprehensive overview of the subject, with a grasp of the main outlines and a sense of the interrelatedness of the various aspects of tort law. I have delineated these in terms of five basic questions: (1) Is the defendant liable at all? (2) What is the extent of the plaintiff's damages? (3) Who should pay how much of those damages? (4) Should the defendant be punished beyond paying the plaintiff compensation? (5) Who should pay the process costs?

Debate about tort law and tort reform will occur on one or more of these basic questions, and the debate will often involve an interrelation of these questions. For example, at the turn of the century, an earlier tort reform movement, concerned with employment injuries, resulted in the enactment of workers' compensation statutes. These statutes attempted to provide an inexpensive process (question five) whereby the issue of liability (question one) could be readily resolved in favor of the victim. As a trade-off, the employer was responsible for only a part of the victim's loss (questions two and three), and punitive damages were not available (question four).

Tort law has various goals, and those goals remain fairly stable over time. However, the society may develop other mechanisms for satisfying one or another of those goals, and that will have an impact on tort law.

Indeed, that impact may be so substantial that tort law will virtually disappear, as in New Zealand. Technological change will also have an impact on tort law, as will the felt necessities of the time. In one time and place, it will be considered fair to bar a victim from any compensation if he has negligently contributed to his own injury. In another time and place, such a rule will be considered unfair. As the quotation from Dean Prosser at the beginning of this primer states, "ultimately the law must coincide with public opinion," but he goes on to note that public opinion may itself be "in a state of division and flux."

The law of torts has ancient roots and can be found in virtually all societies. In Anglo-American law it has been continually developed, especially since the Industrial Revolution, as technological and social change and the felt necessities of the time have impressed themselves on the received body of law. Legal change has been brought about both by the courts, as in the development of negligence and strict liability, and by legislatures, as in the enactment of statutes providing for workers' compensation, contribution among joint tortfeasors and comparative negligence.

The scope of possible change is enormous, ranging from the virtual replacement of the tort law by social insurances as in New Zealand to the retention of much of the traditional body of tort law as in North Carolina itself. I hope that this primer will enable citizens to appreciate and participate knowledgeably in the ongoing reconsideration of the law of torts.

APPENDIX A

DISTINCTIVE FEATURES OF ENGLISH TORT LAW

[The following is a summary of a talk on English tort law given to the North Carolina State Goals and Policy Board by Kersi B. Shroff. Mr. Shroff is an English barrister of Lincoln's Inn and a senior legal specialist in the American-British Law Division of the Law Library of the Library of Congress.]

English law is the origin of American tort law, and the bodies of tort law in the two countries have developed along very similar lines, both because of their single origin and because the principal stimulus to modern developments in tort law in the two countries was the Industrial Revolution. The tort laws of the two countries are distinctive in a number of respects, however, and the distinctive features of English tort law will be discussed below.

Restriction of jury trial. Jury trial is much more limited in England than in the United States. In civil cases, jury trial has been limited in England since 1933.[76] A litigant can have a jury trial as a matter of right only in certain kinds of cases--defamation, for example, or fraud or malicious prosecution. In personal injury cases, the court has the discretion to use juries, but in 1965 the Court of Appeal decided that it would no longer hesitate in upsetting jury awards which were out of proportion to the circumstances of the case.[77] This decision resulted in the virtual elimination of juries from personal injury actions.

Effect on damages. Because of the virtual elimination of juries, judges are now responsible for assessing damages, and awards made by the judges have acquired a high degree of uniformity. An unofficial tariff has developed to which the judges attempt to adhere. This unofficial tariff is very well publicized in the legal profession, and settlement is thereby encouraged because the litigants have a good idea of the amount the judge is likely to award.

The reasons given in support of this regime are as follows. First, judges bring a professional approach to cases. They are typically appointed from the ranks of senior lawyers, mostly Queens Counsel. Normally, one becomes a Queen's Counsel after at least ten years of the practice of law. Therefore, by the time a person is made a judge he or she is quite experienced. Second, judges articulate their reasons for making their awards and are aware of what other judges have done in other cases. Juries, on the other hand, are not professional jurists and do not state the reasons for their decisions. They are thus inexperienced, unaware of decisions in other cases, and unconstrained by any requirement of articulating the reason for their decisions. Juries are

thought to be very receptive to the plight of individual victims, and jury awards are thought to be both high and inconsistent.

Kinds of damages. English courts award both pecuniary damages, such as medical costs and loss of earning, and non-pecuniary damages. Medical costs are negligible because of the National Health Service. Non-pecuniary side damages include damages paid for loss of limbs. The English position is that damages cannot compensate the victim fully for such losses.[78] The judges attempt to arrive at what they think is a fair figure--something that is going to give the victim some comfort in life but will not fully compensate him for his loss. These payments are quite modest in comparison to those awarded in America. Another component of non-pecuniary damages is an amount awarded for the victim's pain and suffering. The same general approach is used as with loss of limbs. There was also previously a separate category of non-pecuniary damages for "loss of expectation of life," but this was statutorily abolished.[79]

Size of damage awards. In 1986, personal injury damages were awarded in England and Wales in 970 road accidents cases.[80] Of those 970 cases, damages in excess of 50,000 pounds were awarded in only 120 cases. (The sterling is currently valued at approximately $1.80) The majority were in the category of between 10,000 pounds and 50,000 pounds. Three hundred and forty cases were in that range. Another large number of cases (120) fall between 5,000 pounds and 7,000 pounds. Non-money judgments were awarded in 150 cases. In some rare cases, in what is called the "living death" situation, where the victim is in a chronic vegetative state, large payments, exceeding one million pounds, have been made in the past few years.[81]

Collateral sources. As to collateral benefits, the American view is gaining ground in England. That is to say, that the defendant should not be credited with the benefits of the plaintiff's collateral sources, especially when they are the result of the plaintiff's thrift or effort, his public and private pension plans, for example. Where the plaintiff has made use of the free medical facilities available under the National Health Service, the defendant will not be liable for medical expenses.[82] Nor is the Service entitled to sue the defendant for the costs of the service it has provided the plaintiff.[83] If the plaintiff receives any Social Security benefits, his damages are reduced by one-half the amount he receives in such benefits during the first five years.[84]

Punitive damages. With very limited exceptions, exemplary or punitive damages are no longer available in England, having been abolished by a decision of the House of Lords rendered in 1964.[85] The court was persuaded that it was the function of the criminal law, not the civil law, to punish. Moreover, the court viewed punitive damages as an unjustified windfall to the plaintiff. One area in which punitive damages have been retained is where there is oppressive, arbitrary and unconstitutional conduct by a government servant. A second area is where the defendant deliberately sets out to make a great profit, regardless of the way he affects the plaintiff, and that profit is going to be far in excess of whatever compensation he is asked to pay. A case exemplifying this involved a book that defamed a distinguished naval officer by giving an inaccurate account of his conduct as commander of a destroyer in a famous episode during the Second World War.[86]

Joint and several liability. English law requires that the defendants have acted in concert for them to be held jointly and severally liable.[87] Thus joint and several liability will not be imposed in a case where the plaintiff is injured due to the combined fault of two drivers, who were not involved in any concerted activity such as drag racing. Each driver will be liable only to the extent of his fault.

Cost of litigation. In both England and the United States, the rule is that "costs follow the event," which means that the successful party, whether the plaintiff or the defendant, receives reimbursement of his costs from the loser. An important distinction, however, is that in England these costs include attorney's fees.[88] At the end of the litigation, the parties submit their costs to a reviewing officer of the court, called a "taxing master." The master will allow only those costs that are "necessary for the conduct of litigation." In practice, the winning party tends to recover about 70 to 75 percent of his actual costs. It is believed that the English rule has a cautionary effect on litigants in causing them to think twice about pursuing doubtful claims or defenses.

Payment into court. A defendant may estimate the amount of his prospective liability and pay that amount into court. The plaintiff has twenty-one days within which to decide whether to accept that amount as a settlement of his claim or to proceed with the action. If he chooses to proceed and the judge, who is not

permitted to know about the defendant's payment into court, awards damages in an amount lower than that paid into court by the defendant, the plaintiff becomes liable for the cost of the action from the date that payment was made into court.[89]

APPENDIX B

DISTINCTIVE FEATURES OF TORT LAW IN CIVIL LAW SYSTEMS

[The following is a summary of a talk on tort law in civil law systems (principally Germany) given to the State Goals and Policy Board by Edith H. Palmer. Dr. Palmer received a J.D. from the University of Vienna in 1963 and clerked for several Austrian judges in 1963 and 1964. She is currently a senior legal specialist in the European Law Division of the Law Library of the Library of Congress.]

In England, tort law is mainly derived from judicial opinions in decided cases. In contrast, the tort law of European nations is part of systematic compilations of the law called Civil Codes. The most famous Civil Code is that of Napoleon, enacted in 1804. It is a product of the age of Enlightenment, founded on the belief that it was possible to state all the legal principles governing the relations between individuals in a society. It was a revolutionary achievement in that it put all members of society on an equal footing, doing away with class privilege and local peculiarities.

Germany is another major civil law country. Its code was enacted considerably later than France's, in 1896, and became effective in 1900. With regard to tort law, the lateness of its enactment is significant in that the industrial age was well underway, and the need for a developed tort law was evident. Thus the German Code contains thirty sections on torts[90] as compared to only five sections in the earlier French Code.[91]

Some of the prominent features of European tort law, as exemplified by German law, are as follows:

Procedure. Several features of German procedure are significantly different from American procedure. There is no jury in civil trials. The judge takes a more active role in the trial, and because there is no jury, there is less need to conclude the proceedings in a short period. The proceedings can be adjourned if the need for additional evidence arises in the course of the trial. Because of this ability to suspend the proceedings, there is no pre-trial discovery in Germany.[92]

Bases of liability. German law, as well as the laws of other countries, employs two bases of liability. The basis of liability found in the Code is the traditional one of fault.[93] In addition, certain modern statutes use strict liability, although strict liability can be found as early as the Prussian Railroad Law of 1838.[94] The application of strict liability has been expanded to include railroads, automobiles, aircraft, water pollution, electric cables, gas pipelines, products, and, since 1976, pharmaceutical drugs.

Strict liability laws cover mostly insurable risks. Germany, for example, has had mandatory liability insurance for automobiles since 1939.[95] Strict liability, especially with respect to railroads and automobiles, can be found in the laws of other countries, including Austria, Denmark, Norway, Sweden (until 1975), Japan, Italy, and even in some socialist countries.

Size of awards. Damage awards in Germany are much lower than in the United States. The principal reasons are a more restrictive attitude in awarding damages and the availability of social benefits. In particular, damages for pain and suffering are lower than in the United States. Case law has established predictable amounts, and these have been compiled in tables. The highest award has been 360,000 DM (Deutsche Mark) for a paraplegic with other problems as well.[96] (The Deutsche Mark is currently valued at approximately $1.60.)

Caps on liability. In cases in which liability is based on strict liability, Germany and other countries employ caps to limit the amount of recovery. A typical cap for automobile and other cases of strict liability is 500,000 DM for personal injury to one victim and 750,000 DM if several persons are injured in a single accident.[97] A justification for caps in strict liability cases is that in the absence of fault, the defendant should not be exposed

to unlimited liability. In under strict liability addition to caps, damages for pain and suffering are not available. Because of these limits on recovery, plaintiffs often attempt to bring their cases in negligence, where there are not such limits on the amount of compensation.

Social benefits. Germany has an extensive social welfare system, which consists primarily of social security (old age and disability), mandatory health and accident insurance. Most Germans are covered by one or several plans. When a German wage earner is injured, he remains on the employer's payroll for six weeks, then receives sick pay from the medical insurer (up to 78 weeks within three years) practically until he receives a disability pension. His medical treatments are provided by medical insurance.

The social insurers have a statutory right of subrogation to the victim's claim against the tortfeasor.[98] The victim is awarded only the damages that have not been compensated by the social insurance carriers. Of course, in the typical case the social insurer is not paid by the tortfeasor himself but by liability insurers. Social benefits must be accepted by the victim under the principle of the victim's obligation to mitigate damages.[99] However, the victim can elect to use private medical treatment, but these costs will be awarded as damages only to the extent that they would have been incurred under social medical treatment, unless special circumstances justify the additional expenditures.[100] Private health insurance policies may provide for subrogation. Life insurance is not deducted from the award. As with the collateral source rule in the United States, the tortfeasor is not supposed to benefit from the victim's thrift.

Comparative fault. When the victim is partly to blame, his recovery is reduced but not eliminated. The respective faults of the victim and the injurer are apportioned in percentages. Comparative principles are applied regardless of whether liability is based on fault or strict liability.[101]

Joint and several liability. Each tortfeasor is liable to the plaintiff for the entire compensation only if one of two conditions are met: (1) the tortfeasors acted together with intent, or (2) it cannot be ascertained which of several tortfeasors caused the damage.[102] For example, if it cannot be established which of several polluters is responsible for the pollution damage, the victim can claim the entire compensation from each.

Payment of awards. Damages for loss of earnings and support of survivors are paid in the form of an annuity.[103] Annuity payments may cease, be suspended, or reduced when a widow re-marries or, in some cases, when she is able to support herself.[104]

Costs. The losing party pays the necessary costs of the winning party, including court costs, attorney's fees, and other expenses.[105] These costs are determined by a clerk of the court. In Germany, it is immoral and unethical to make the payment of the attorney's fee contingent on the success of the lawsuit.[106] German attorney's fees are based on statutory fee schedules.[107] Higher fees can be agreed between attorney and client, but only the statutory fees are awarded as costs. Indigent parties are not precluded from legal representation because of generous legal aid provisions and the widespread use of legal services insurance. Forty to fifty percent of German households have some legal services insurance coverage. Such insurance is not confined to Germany, but is popular in most European countries, and there has been some coordination in the European Economic Community.

ENDNOTES

1. See Cohen v. Petty, 65 F.2d 820 (D.C. App. 1933).
2. "[I]n the main the law started from those intentional wrongs which are the simplest and most pronounced cases, as well as the nearest to the feeling of revenge which leads to self-redress." O.Holmes, The Common Law 128 (M. Howe ed.1963).
3. I de S et Ux v. W de S (probable translation: John of Somerset and Wife v. William of Somerset), Y.B.Lib.Ass.folio 99, placitum 60(England 1348).
4. "The general principle of our law is that loss from accident must lie where it falls, and this principle is not affected by the fact that a human being is the instrument of misfortune." O.Holmes, supra note 2, at 76.
5. One can insure oneself and one's dependents through various lines of insurance against losses arising from personal injury, death, 7.
6. For example, Aid to the Blind, Aid to the Permanently and Totally Disabled, Supplemental Security Income program, Medicaid, Aid to Families with Dependent Children, General Assistance.

7. Of course, tort law can be calibrated so that it will provide compensation in a rather limited number of cases or in a rather large number of cases. Holmes stands for the traditional view that tort law should be restrictive: "The state might conceivably make itself a mutual insurance company against accidents, and distribute the burden of its citizens' mishaps among all its members. There might be a pension for paralytics, and state aid for those who suffered in person or estate from tempest or wild beasts ...The state does none of these things, however, and the prevailing view is that its cumbrous and expensive machinery ought not to be set in motion unless some clear benefit is to be derived from disturbing the status quo. State interference is an evil, where it cannot be shown to be a good." O. Holmes, supra note 2, at 77.

In contrast to Holmes is the mid-twentieth century writer Fleming James, who argued in favor of using tort law as a kind of social insurance: "It is the principal job of tort law today to deal with [human] losses. They fall initially on people who as a class can ill afford them, and this fact brings great hardship upon the victims themselves and causes unfortunate repercussions to society as a whole. The best and most efficient way to deal with accident loss, therefore, is to assure accident victims of substantial compensation, and to distribute the losses involved over society as a whole or some very large segment of it." 2F.Harper & F.James, The Law of Torts 762-63(1956).

8. District of Columbia v. Barriteau, 399 A.2d 563, 566 (D.C. App. 1979); see Moore's Inc. v. Garcia,604 S.W.2d 261, 266 (Tex. Civ. App. 1980) ("fully compensate the injured party").
9. "In contrast to the other main branches, accident insurance was a relatively late development: extensive underwriting of the risks of accidental damage to property or injury to persons, of sickness and legal liability, of burglary, and of other misfortunes or losses did not really occur until the second half of the nineteenth century ..." Supple, Insurance in British History, in The Historian and the Business of Insurance at 6 (O.Westall ed. 1984).
10. The New Zealand Accident Compensation Act 1972 provides for earnings-related compensation and other benefits for all victims of personal injury by accident. It eliminates the right to sue on account of such injuries. G. Palmer, Compensation for Incapacity: A Study of Law and Social Change in New Zealand and Australia 9(1979).
11. See generally G. Calabresi, The Costs of Accidents (1970); R. Posner, Economic Analysis of Law (3d ed.1986).
12. See Salevan v. Wilmington Park, Inc., 72 A.2d 239 (Del. 1950).
13. See Osterlind v. Hill, 160 N.E. 301 (Mass.1928); see also Yania v. Bigan, 155 A.2d 343 (Pa.1959).
14. Brown v. Kendall, 60 Mass. 292 (1850).
15. Gregory, Trespass to Negligence to Absolute Liability, 37 Va. L. Rev. 359 (1951).
16. Id. at 362-64.
17. See, e.g., Wabash, St. L.& P. Ry. Co. v. Locke, 14 N.E. 391, 393 (Ind.1887) (railway accident; reversing judgment for plaintiff, citing Brown). Boyd v. Boston Elevated Ry. Co.,112 N.E. 607, 608 (Mass.1916) (railway-automobile accident; no liability, citing Brown).
18. Restatement of Torts Sec. 519 & 520 (1938) ("ultrahazardous activities") and Restatement (Second) of Torts Sec. 519 & 520 (1977) ("abnormally dangerous activities").
19. See Siegler v. Kuhlman, 502 P.2d 1181 (Wash.1973).
20. The leading case on strict liability for ultrahazardous or abnormally dangerous activities is Rylands v. Fletcher, L.R. 3 H.L. 330 (House of Lords 1868). In that case the owners of a mill were held liable to an adjoining coal mining operation when the water from a reservoir the mill owners had had constructed burst through filled, abandoned mineshafts and flooded the plaintiff's mine. The House of Lords held the mill owners liable despite the absence of negligence because the plaintiff's damage arose from the defendant's "non-natural use" of the land. A traditional application of strict liability for ultrahazardous or abnormally dangerous activities is the use or storage of explosives. See Exner v. Sherman Power Construction Co., 54 F.2d 510 (2d Cir. 1931).
21. Greenman v. Yuba Power Co., 377 P.2d 897 (Cal. 1963)(judicially adopting strict liability for defective products); Smith v. Fiber Controls Corp., 300 N.C. 669, 678, 268 S.E.2d 504 (1980)(because of recent legislation--1979 Products Liability Act--court not inclined to adopt judicially strict liability in products liability cases). See Restatement (Second) of Torts Sec. 402A (1965) (adopting strict products liability).
22. In cases involving explosives, for example, the plaintiff need not show that there was any defect with the explosive or any error in its use. Exner v. Sherman Power Construction Co., 54F.2d 510 (2d Cir. 1931). Similarly, in workers' compensation, the injured employee must show only that his injury arose from and in the course of his employment. 1A. Larson, The Law of Workmen's Compensation Sec. 2.20 (1931).
23. See, e.g., De Lair v. Mc Adoo, 188 A. 181, 184 (Pa. 1936) (Negligent to drive on tires worn through to the fabric); Lubitz v. Wells, 113 A.2d 147, 147 (Conn. 1955) (not negligent to leave golf club lying on ground in the yard).
24. See, e.g. Martin v. Herzog, 126 N.E. 814, 815 (N.Y. 1920) (driving without lights in violation of statute is negligent; "jurors have no dispensing power").
25. Underwood v. Fultz, 331 P.2d 375 (Okla.1958) (excessive speed not necessary component of automobile hitting child); Texas & Pac. Ry. v. McCleery, 418 S.W. 2d 494 (Tex. 1967) (train's excessive speed not necessary component).
26. See Berry v. Sugar Notch Borough, 43 A. 240 (Pa. 1899).
27. See Winterstein v. Wilcom, 293 A.2d 821 (Md. App. 1972); see also Williams v. Nationwide Mut. Ins. Co., 5 N.C. App. 632, 169 S.E. 2d 12 (1969) (assumption of risk applicable in action to recover under uninsured motorist coverage for injuries suffered by mechanic when car he was repairing fell on him).
28. See Butterfield v. Forrester, 103 Eng. Rep. 926 (K.B. 1809).
29. Smith v. Fiber Controls Corp., 300 N.C. 669, 268 S.E.2d 504(1980).

The victim's own negligence would not bar recovery if the defendant had the "last clear chance" to avoid the accident and negligently failed to avoid it. The classic case involved an ass left fettered at the edge of the highway which was run down and killed by the defendant's wagon, which was going down an incline at a "smartish pace," drawn by a team of three horses. Davies v. Mann, 152 Eng. Rep. 588 (Exchequer 1842). In the North Carolina case of Exum v. Boyles, 272 N.C. 567, 158 S.E. 2d 845 (1968), the plaintiff's decedent was changing a tire on the shoulder of the highway when struck by defendant's vehicle. The court stated: "[T]o bring into play the doctrine of last clear chance, there must be proof that after the plaintiff had, by his own negligence, gotten into a position of helpless peril (or into a position to which he was inadvertent), the defendant discovered the plaintiff's helpless peril (or inadvertence), or, being under a duty to do so, should have, and, thereafter, the defendant, having the means and the time to avoid the injury, negligently failed to do so. The only negligence of the defendant may have occurred after he discovered the perilous position of the plaintiff." Id.at 576.

30. V. Schwartz, Comparative Negligence 1-3 (2d ed. 1986).

31. Miller v. Miller, 273 N.C. 228, 237, 160 S.E.2d 65 (1968) (no comparative negligence in N.C.).
32. See, e.g., Williams v. Jefferson Hospital Ass'n, 442 S.W.2d 243 (Ark. 1969) (charitable immunity); Redding v. Redding, 235 N.C. 638, 70 S.E. 2d 676 (1952) (parent-child immunity).
33. W. Keeton, D. Dobbs, R. Keeton & D. Owen, Prosser & Keeton on the Law of Torts 1032 (5th ed. 1984) (Herinafter, "Prosser & Keeton") ("The description of the immunities today is largely the description of abandonment of and limitations on the immunities erected in an earlier day.")
34. 1 A.Larson, supra note 22, Sec. 2.40, at 11.
35. Plant, Damages for Pain and Suffering, 19 Ohio St. L.J. 200(1958) (suggesting limiting pain and suffering award to 50 percent of medical and related expenses); See, e.g., Colo. Rev. Stat., Sec. 538.210 (Vernon 1988) (inactions against health care providers, cap of $350,000 per occurrence, per defendant).
36. See, Mo. Ann.Stat.,Sec. 538.215 (Vernon 1988) (requiring trier of fact to itemize damages).
37. Campbell v. Pitt County Memorial Hospital, 321 N.C. 260, 362, S.E.2d 273 (1987); Weeks v. Holsclaw, 306 N.C. 655, 295, S.E.2d 596 (1982).
38. Ryan v. New York Central R.R. Co., 35 N.Y. 210, 217 (1866).
39. Cates v. Wilson, 321 N.C. 1, 361 S.E.2d 734 (1987) (no windfall because law provides for full reimbursement of state for any Medicaid payments); Helfend v. Southern California Rapid Transit Dist., 465 P.2d 61 (Cal. 1970); Fleming, The Collateral Source Rule and Loss Allocation, 54 Cal. L. Rev. 1478, 1479 (1966).
40. Cates v. Wilson, 321 N.C. 1, 361 S.E.2d 734 (1987) (collateral source rule applies to governmental benefits; involved in this case were Medicaid, AFDC, training for mentally and physically handicapped provided by local school, state Intermediate Care Facilities); Young v. Baltimore & O.R.R.Co., 266 N.C. 458, 146 S.E.2d 441 (1966)(collateral sources: "beneficial society," plaintiff's family or employer, insurance company).
41. 1 A. Larson, supra note 22, Sec. 2.00 et seq. ("Compensation Contrasted with Tort").
42. Seattle First National Bank v. Shoreline Concrete Co., 588 P.2d 1308 (Wash. 1978).
43. Denneler v. Aubel Ditching Service, 453 P.2d 88 (Kan. 1969); Merryweather v. Nixan, 101 Eng. Rep. 1337 (K.B. 1799).
44. Uniform Contribution Among Joint Tortfeasors Act Sec. 2 (1955 Revised Act).
45. V. Schwartz, supra note 30, at 276.
46. D.Dobbs, Law of Remedies Sec. 3.9 at 205 (1973).
47. Rookes v. Barnard, [1964] 1 All E.R. 367. Some states also do not award punitive damages. City of Lowell v. Massachusetts Bonding & Ins. Co., 47 N.E.2d 265 (Mass. 1943); Conrad v. Lakewood Gen. Hosp., 410 P.2d 785 (Wash. 1966).
48. Administrative, or transaction, costs consumed almost half the $29 to $36 billion spent on tort litigation in 1985. J.Kakalik & N. Pace, Costs and Compensation Paid in Tort Litigation 69 (Rand R-3391-ICJ 1986). "To deliver this $14 to $16 billion in net compensation, the tort litigation system expended $16 to $19 billion in transaction costs. These costs included $11 to $13 billion in combined defendants' and plaintiffs' legal fees and expenses, $0.5 billion in court expenditures, and an additional $4 to $5 billion in the value of the time spent by litigants and their employees." Id.
49. Restatement (Second) of Torts Sec. 914 (1982).
50. D.Dobbs, supra note 46, Sec. 8.1, at 5550-51 (pain and suffering); Helfend v. Southern California Rapid Transit Dist., 465 P.2d 61 (Cal. 1970) (collateral source rule); Schlein v. Smith, 160 F.2d 22 (D.C. Cir. 1947) (punitive damages).
51. The New Jersey maximum fee schedule, Rule 1:21-27, reads:

"[A]n attorney shall not contract for, charge, or collect a contingent fee in excess of the following limits:
(1) 50% on the first $1000 recovered;
(2) 40% on the next $2000 recovered;
(3) 33 1/3% on the next $47,000 recovered;
(4) 20% on the next $50,000 recovered;
(5) 10% on any amount recovered over $100,000; and
(6) where the amount recovered is for the benefit of an infant or incompetent and the matter is settled without trial the foregoing limits shall apply, except that the fee on any amount recovered up to $50,000 shall not exceed 25%."

52. Hunt v. Bradshaw, 242 N.C. 517, 521, 88 S.E.2d 762, 765 (1955); Prosser & Keeton, supra note 33, Sec. 32 at 186-87 (5th ed. 1984).
53. Prosser & Keeton, supra note 33, Sec. 32 at 186.
54. Texas & Pac. Ry. Co. v. Behymer, 189 U.S. 468, 470 (1903).
55. McCoid, The Care Required of Medical Practitioners, 12 Vand L. Rev. 549, 605-06 (1959).
56. Jackson v. Mountain Sanitarium & Asheville Agriculture School, 234 N.C. 222, 226-27, 67 S.E.2d 57, 61 (1951); McCoid, supra note 55, at 607-08.
57. See Brannon v. Wood, 444 P.2d 558 (Ore. 1968).
58. Boyce v. Brown, 77 P.2d 455 (Ariz. 1938) (holding doctor's testimony of what he would have done in particular situation insufficient to establish proper standard of treatment).
59. Mitchell v. Saunders, 219 N.C. 178, 13 S.E.2d 242 (1941) (sponge); Pendergraft v. Royster, 203 N.C. 384, 166 S.E. 285 (1932) (Jagged piece of glass from broken test tube).
60. Kourny v. Follo, 272 N.C. 366, 372-73, 158 S.E.2d 548, 554 (1968); Marchlewsski v. Casella, 106 A.2d 466, 467-68 (Conn. 1954).
61. Hardy v.Dahl, 210 N.C. 530, 534, 187 S.E. 788, 790 (1936) (practitioner of naturopathy); Jones v. Stess, 268 A.2d 292, 294 (N.J.Super. 1970)(chiropodist).
62. Parrish v. Spink, 224 So. 2d 621 (Ala. 1969) (general practitioner); Toth v. Community Hospital at Glen Cove, 282 N.Y.S.2d 945
63. Carroll v. Richardson, 110 S.E.2d 193 (Va. 1959)(general practitioner); Lundgen v. Eustermann, 370 N.W.2d 877 (Minn. 1985) (internist prescribing drug).
64. Pedersen v. Dumouchel, 431 P.2d 293 (Wash.1967)(general practitioner); Naccarato v. Grob, 180 N.W.2d 788 (Mich. 1970)(pediatricians)
65. Tefft v. Wilcox, 6 Kan. 46 (1870); Smothers v. Hanks, 34 iowa 286 (1872).
66. Shilkret v. Annapolis Emergency Hospital Ass'n, 349 A.2d 245, 249 (Md. 1975).
67. Id.
68. Id.

69. 1D.Louisell & H. Williams, Medical Malpractice Sec. 8.06, at 211 (1983); Byrd, The North Carolina Medical Malpractice Statute, 62 N.C.L. Rev. 711, 724(1984).
70. N.C.Gen.Sec.90-21.11 (Michie 1985); see Byrd, supra note 69, at 724-25.
71. Restatement (Second) of Torts Sec. 13 (harmful contact) & 18 (offensive contact) (1965).
72. Lewis v. Shaver, 236 N.C.510, 73 S.E.2d 320(1952) (ovaries removed and Fallopian tuves tied when patient consented to removal of ovarian cyst); Mohr v. Williams, 104 N.W. 12 (1905) (battery when surgeon operated on patient's left ear when she had consented to operation on her right ear).
73. Scott v. Bradford, 606 P.2d 554 (Okla. 1979); Canterbury v. Spence, 464 F.2d772 (D.C.Cir.1972) cert. denied, 409 U.S. 1064.
74. Scott, supra note 73, at 558; Canterbury, supra note 73, at 783-84.
75. Scott, supra note 73, 556; Canterbury, supra note 73, at 780, 784.
76. Administration of Justice (Miscellaneous Provisions) Act, 1933, 23 & 24 Geo.5, ch.36.
77. Ward v. James, [1966] 1Q.B. 273(C.A.).
78. In Phillips v. L.&S.W.Ry., 5Q.B.D. 78,84 (C.A. 1879), counsel referred to a rule:

[A] jury must not attempt to give a man full compensation for bodily injury, if they were to do so there would be no limit to the amount of changes, for no sum would be an equivalent for the loss of a man's eyes.

79. Administration of Justice Act, 1982, ch.53, Sec. 1(1)(a). Under Sec. 1(1)(b), however, in assessing damages for pain and suffering, the court will taken into account any suffering caused by the victim's awareness that his expectancy of life has been shortened.
80. Gt. Brit. Lord Chancellor's Department, Judicial Statistices 1986, Cmd. 6, No. 173, Table 3.6 (1987). Of the 14425 judgments in cases of injuries sustained at work, 135 were for over 50,000,260 for between 10,000 to 50,000 and 310 were non-money adjusgments.Id.
81. E.g. in Aboul-Hosn v. Grant and others, July 10, 1987 (unreported), an award of 1,032,000 was made to a gifted student, age nineteen, who was reduced by amedical error to a zombie-like existence.
82. West v. Shephard, [1964] A.C. 326, 358, per Lord Devlin (H.L.).
83. J. Fleming, Law of Torts 131 (1985).
84. Law Reform (Personal Injuries) Act, 1948, 11 & 12 Geo. 6, Ch.41, Sec. 2(1).
85. Rookes v. Barnard, [1964] A.C. 1129 (H.L.).
86. Broome v. Cassell & Co., [1972] A.C. 1027.
87. The Koursk, [1924] P. 140, 159.
88. Rules of the Supreme Court (RSC), O. 62, r. 1(1).
89. Id. O.22 and O.62, r. 5(b). See Findlay v. Railway Executive, [1950] 2 All E.R. 969 (C.A.); Powell v. Vickers, Sons & Maxim, Limited, [1907] 1 K.B. 71 (C.A.).
90. Secs. 823 through 853, Civil Code, i.e., Burgerliches Gesetzbuch [BGB] vom 18. August 1896, Reichsgesetzblatt [RGB1., official law gazette of the German Reich] p. 195. These provisions are crucially supplemented by sections found in the general part of the law of obligations of the Civil Code.
91. Secs. 1382 through 1486, Code civil (Paris, Dalloz, 1986-87).
92. Gerber, "Extraterritorial Discovery and the Conflict of Procedural Systems: Germany and the United States," 34 American Journal of Comparative Law 750 (1986).
93. Sec. 823, para. 1, Civil Code translates as follows:

A person who, willfully or negligently, unlawfully injures the life, body, health, freedom, property, or other right of another is bound to compensate him for any damage arising therefrom.

94. Sec. 25, Gesetz uber die Eisenbahnunternehmungen vom 3. November 1838, Gesetz-Sammlung fur die Koniglichen Preussischen Staaten [official law gazette of Prussia] 1838, p.505 translates as follows:

The society shall be obligated to compensate for all damage occurring in the course of transportation by the railroad, to persons and goods transported by it, or also to other persons and their property, and the society shall be able to free itself from this obligation only by proving that the damage was caused either through the own fault of the damaged person or through an unavoidable, external, and fortuitous event. The dangerous nature of the enterprise in itself shall not be considered as such a fortuitous event that exonerates from the duty to compensate for damage.

95. Gesetz uber die Einfuhrung der Pflichtversicherung fur Kraftfahrzeughalter vom 7. November 1939, RGB1.,I,p. 2223.
96. Decision of Landgericht Bielefeld of September 17, 1980 Deutsches Autorecht 161 (1982).
97. The 500,000 DM cap per victim is found for automobiles, in sec. 12, Strassenverkehrsgesetz[StVG] vom 19.December 1952, Bundesgesetzblatt [BGB]., official law gazette of the Federal Republic of Germany] I, p.837, as amended; for aircraft, in sec.37, Luftverkehrsgesetz in der Fassung vom.14. January 1978, BGB1.I,
98. Sec. 116, Title 10, Sozialgesetzbuch, Artikel 10,Gesetz vom 18.August 1980, BGB1.I, p.1469.
99. Sec.254, BGB;R. Geigel and G. Schlegelmilch, Der Haftpflichtprozess 1085(Munchen, 1986).
100.H.Becker and K. Bohme, Kraftverkehrs-Haftpflicht-Schaden 355(Heidelberg, 1986).
101.Sec.254, BGB; Sec.9,StVG.
102.Sec.830, BGB; Palandt, Burgerliches Gesetzbuch 873 (Munchen 1982).
103. Sec.843, BGB. A lump sum can be awarded only upon demand of the victim and if special circumstances prevail.
104. W. Wussow and H. Diekstall, Unfallshaftpflichtrecht 730 (Konl, 1985); Geigel, supra, note 10, at 211, and 214.
105. Sec. 91, Code of Civil Procedure, i.e., Zivilprozessordnung in der Fassung vom 12.September 1950, BGB1.I, p.533.
106. Sec. 52 of the Code of Ethics of the Bar prohibits contingency fees. Although a statutory prohibition of contingency fees was abolished in 1957, the courts continue to void contingency fee agreements: decision of Bundesgerichtshof of February 28, 1963; 39 Entscheidungen des Bundesgerichtshofes in Zivilsachen 142(1963); F. Riedl and Sussbauer, Bundesgeuhrenordnung fur Rechtsanwalte 29 (Munchen, .985).
107. Bundesgebuhrenordnung fur Rechtsanwalte vom 26.Juli1957, BGB1.I, p.861.

The AMA Council on Scientific Affairs

HENRY N. WAGNER JR., MD

Medicine is an art based on science. Since its inception, the AMA has promoted the advancement of public health and biomedical science in order to be better able to care for patients as individuals.

Established by the House of Delegates in 1976, the Council on Scientific Affairs (CSA) consists of 11 physicians and one medical student. The elected members may have terms of three years up to a maximum of nine years. The members represent a broad spectrum of physician scientists from different medical specialties. The Council meets four times a year at AMA headquarters in Chicago beginning on Sunday mornings at 11:00 a.m. and continuing through the evening, with a final session from 8 a.m. - 12 noon or later on Mondays. Council meetings also are held at the time of the House of Delegates meetings.

Acting as a group and after considerable discussion, Council members identify, delineate, analyze, and recommend AMA policy with respect to scientific issues that affect medical practice and public health. The Council works closely with the AMA Group on Science and Technology, headed by William R. Hendee PhD, an AMA Vice-President, who with his colleagues attend Council meetings. The Group has three divisions: Drugs and Toxicology, Basic Science, and Clinical Science. Together the Group and the Council try to ensure that developments in the science and technology of medicine are brought in timely fashion to the attention of the members of the House of Delegates, all physicians, other health care professionals, and the public.

A fundamental principal of the AMA, the Group, and the CSA is that patient care can be improved only by continually assessing the most current and accurate information with physicians and other health professionals.

A high percentage of the reports are submitted for peer review and publication in the Journal of the American Medical Association (JAMA). Since 1976, the Council has prepared 215 reports, 85 of which have been published in JAMA. Over the past three years, 42 Council reports concerned AMA policy and were transmitted via the Board of Trustees to the House of Delegates which then determined what action, if any, should be taken. Fifty-one reports were informational only and did not involve policy issues.

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Examples of recent reports are four concerning magnetic resonance imaging (MRI) and four on positron emission tomography (PET). A series of reports have been concerned with AIDS. Firearms as a public health problem, cancer risk from pesticides, smoking cessation, and the health effects of radon and ozone are other reports of the past year. The reports are generated by the staff of the Group on Science and Technology, by the appointment of ad hoc expert panels (from 6-10 persons) suggested from nominees made by members of the Council, by professional societies, or by specialty groups. The final approval of panel members is by the Council after nominations have been received.

In 1982 a program called Diagnostic and Therapeutic Technology Assessment program (DATTA) was instituted by AMA and incorporated into the activities of the Council on Scientific Affairs. The function of DATTA is to assess existing and new diagnostic and therapeutic procedures and technologies. Recommendations of topics to be addressed are accepted from all sources but come chiefly from individual physicians. Inquiries often involve controversial issues, the most striking recent example being thermography.

The AMA receives thousands of inquiries every year requesting information about medical practice, many concerned with technical or scientific issues. The staff handles many of these, but selected topics of sufficient importance and complexity are referred to DATTA. Questions selected by the DATTA Subcommittee of the CSA are prepared by staff for evaluation by panels selected from a group of more than 600 experts in various fields who have agreed to participate in the DATTA program. Highly specific questions are asked of the panel members, for example, whether a procedure, technology, or practice is well established, promising, doubtful, or unacceptable. The process usually takes from two to four months before the results are available.

After responses are tabulated, DATTA opinions are published in *JAMA* together with a narrative description of literature reports and panel findings. Each DATTA opinion is prefaced by the statement: "This report is not intended to be construed or to serve as a standard of medical care. If reflects the views of DATTA panelists and reports in the scientific literature as of [date of the report]."

In addition to publication in *JAMA* and other professionals journals when appropriate, DATTA opinions are presented to the AMA Board of Trustees and House of Delegates.

In 1985, the question was raised whether the present method of election of members of the Council by the House of Delegates after nomination by the Board of Trustees should be continued or be replaced by appoint-

ment of the entire Council or a fraction of the members by the Board. The delegates voted with great enthusiasm to continue the present method of election.

For American medicine to maintain its standard of excellence, it is essential that basic and clinical research continue to be the foundation of the practice of the art of medicine. The CSA helps insure that scientific research be given a high priority among competing federal programs.

Council members are important channels for communication between the AMA, political leaders, and the public with respect to scientific issues affecting medical practice, biomedical research, and public health. The CSA plays an important role in facilitating the transfer of technological advances into practice, as well as in the evaluation of the safety, effectiveness, and cost effectiveness of such advances. Its main vehicle is communication via JAMA, AMA-NET, and special publications (such as *AMA News* in which the AIDS reports appeared as a separate inserts). The discussion of science issues at the Reference Committee is another major communication link with delegates and others, such as Surgeon General Koop, involved in health care and biomedical science policy.

At the last meeting of the House of Delegates in June, I had the great honor of being re-elected for a second three-year term on the Council. During my campaign for re-election, I was asked: "What does the Council do for me as a member of Med Chi?" I have tried to begin to answer that question in this brief note and will periodically present CSA happenings of interest to the readers.

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Practice Computerization: Hints and Suggestions

HAROLD E. McCRAY

Roughly 13 percent of United States physicians in private practice own microcomputers and use them to manage their offices. This is an increase of nearly 8 percent in just five years. At this rate, 20 percent of physicians will own computers by the end of the decade. The consensus is that the pressures of costs, regulations, and competition render a simple manual ledger ineffective. A ledger cannot provide an alert to recall a patient, summarize financial data, nor produce medical reports for regulatory agencies. Consequently, to remain successful in the 90s, more physicians are turning to microcomputers to "manage" their practices more efficiently.

What are the benefits you and your staff will gain in joining this trend? An automated Practice Management System (PMS) reduces time requirements for some repetitive routines: posting procedure charges, generating monthly bills, and completing insurance forms. It also allows you to see trends in your practice, for example, how many patients experienced a specific illness during a designated period, what changes are occurring in your patient demographics, or when to discontinue accepting assignment of benefits from a third party because of increased disallowances. You can use this information to alert patients or inform your colleagues. Although a PMS can provide some of the benefits of an office manager without the labor cost, it is only a partial solution to managing your practice cost effectively.

Computerization is not synonymous with cost savings. Although a large part of medical practice is information handling, researchers have found that automation alone can produce only about a 25 percent savings. This leaves roughly 75 percent of the medical office work untouched. To attack this 75 percent requires an additional strategy, a restructuring of your practice that lends itself to an improved use of automation.

Where do you start? You should begin by understanding how information flows in your office and how your staff interacts with it. Your staff's involvement is critical. Who else knows more about your practice? Hiring a consultant experienced in installing a PMS will save you time and frustration, but you must find one who will show you how to restructure your practice as well as to automate it. If you choose not to hire a consultant, there are some steps you can take to reshape and better manage your practice.

Start with a thorough analysis and documentation of office routines. Then you and your staff can decide what to streamline (for example, recording data once for different forms) and what to eliminate (for example, the time-consuming photocopying of ledger cards at the end of the month to send to patients as bills).

Develop a schedule, assign responsibilities, and maintain open communication during the analysis and planning process. Use the product of this analysis as your operations and training manual for new personnel. Keeping the manual current will eliminate the frequent complaint: "I don't know how it was done before I came."

Working with your staff in developing simpler office routines encourages their acceptance of these changes.

Goal Setting and Needs Determination

While analyzing your practice, identify your professional goals and appropriate strategies to achieve them. What sort of physician/patient relationship do you want? How do you wish your referring colleagues to view you? What are the critical items required to maintain a healthy practice? Have you identified your competitors? How do you plan to market your advantages? What are your growth plans? In short, determine where you are going before investing in a computer, which is merely a tool to help you and you staff reach your goals.

Having identified your goals and determined the routines needing change, you now must compare the costs with the savings and benefits of investing in an automated office system. Software to handle patient records, accounts receivable, and insurance forms ranges between $1,000 and $2,500 for a solo practice. Basic hardware costs start at $1,500 and can exceed $8,000 depending upon a combination of factors: brand name, operating system (MS-DOS, PC-MOS, UNIX, etc.), microprocessors (8088, 286, or 386), the number of terminals and printers, and whether you plan to electronically process insurance claims.

Expect to pay more for software that has the convenience of multi-tasking. Also, as the number of physicians and staff who will use the system increases, you will need additional capabilities for example multi-user (networking), more memory and storage (hard disk size). These items could easily add another $2,000 per work station. A "turnkey system" (a package that includes software, hardware, accessories and training) usually costs more.

Your savings, such as an improved cash flow and tax benefits (remember depreciation for equipment is over

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seven years instead of five) are less easy to identify. It is even harder to give value to the intangible benefits:

(1) a boost in employee morale resulting from eliminating the hair-pulling, end-of-the-month billing crunch

(2) the ability to know the number of referrals from each colleague; or

(3) the capability of printing a "superbill" at the end of a patient's visit.

Software and Hardware Selection

Now you are ready to shop for a system. An important first step is giving proportionally less time to hardware comparison. Use that "extra" time for your analysis and documentation stages and for evaluating software. It is the software that makes the otherwise dumb computer useful and smart. Separate your software needs from your wants. Choosing a billing and collection package that combines word processing will raise the ultimate cost of the PMS. Buying a separate word processing program often proves cheaper.

It is no longer necessary to buy customized accounting packages for your practice. There is off-the-shelf software tailored for medical practice. Choose a package that "looks like" your manual system, yet performs the tasks you wish to automate and still allows you to modify it.

A *single-user system* is the common desk-top computer with one monitor and one keyboard. A single-user system is the obvious choice for a small practice. For larger practices and those in multiple locations, multiple single-user systems are still usually a better choice than multi-user systems (one computer with two or more monitors and keyboards) or local area networks (a cluster of computers connected together), barring special situations. Multiple single-user systems are less complex, have fewer compatibility problems, use cheaper software, and are easier to maintain and to repair than multi-user systems and networks. Only if real-time entry (rather than batch entry at the end of the day) at multiple stations is a necessity in your practice should a network be considered.

Generally speaking, batch processing (the ability to print many forms from a single command) is desirable as are screen formats that allow easy data entry and a logical movement among various "screens." Look for software that allows you to apply credit against a specific line item as opposed to the "balance forward" approach. Patients will want the detailed information. Although a software demonstration might be unavailable, it is always desirable.

Remember no vendor will demonstrate the bad side of software. A better source of information is another physician who uses the software.

Focusing on computer speed is a mistake when purchasing hardware. Speed in processing takes a back seat to speed in repairing or replacing a failed system. If the vendor talks in days, then leave immediately. You cannot afford "downtime" that puts the burden of catch up on your office staff. It is wise to buy all your hardware (printer, computer, monitor, surge protector) from the same vendor. Then, when any one item malfuctions, which is sure to happen, troubleshooting becomes the vendor's job.

Relative to your strategy, consider other applications you might subsequently add to your hardware system. Determine the cost of these enhancements. Two systems might be identical in price and performance, but future enhancements for one might be costlier than for the other. Also, you might consider buying two printers to save your staff time in changing between different types of forms when printing. The initial higher cost might prove cheaper over time. In any event, purchase software and hardware to meet your actual needs today and avoid buying promises that too often become tomorrow's disappointments.

Implementation

Identify where you will locate the system in your office. What about electrical outlets? Will you have enough? Four outlets is a good number to start with. Essentially, the implementation process is the junction where the computer adage "Garbage in, garbage out" takes on significance. Use this time to perform an office clean up.

You will be able to resolve and clear credit balances, identify outstanding claims, write off bad debts, and send collectable accounts to a collection agency. In addition, you will want to collect the following items: physician data (tax i.d., social security number, etc.) insurance carrier data, CPT codes (diagnoses and procedure codes and charges).

A frequently forgotten and time-consuming task, yet critical, is the transferring of data to a new office management system. Prior to this process, request on-site preliminary training for your staff. Also, design an input document that conforms to the screen format of your selected software. Your staff should complete a document for each active patient. For this project, set aside additional funds for overtime to allow your staff

ample time to review patient information before data entry. Ideally, the data-entry person should be someone on your staff because "ownership" often improves the accuracy rate.

Perform a "walk through" of an entire cycle: entering fictional patients for the test, performing reports, and printing forms. Identify and eliminate problems now because once you are working with real data, a computer will multiply an error at an alarming rate.

Phase in new tasks one by one to avoid overloading your staff. For at least two months, your staff ought to maintain the manual along with the automated system. This "parallel run" serves as an auditing feature to find and resolve problems. To skip this process often causes major headaches. Target a date, preferably at the beginning of a new month, when you will discontinue the "parallel run."

Review the duties your accountant performs, decide whether to expand or reduce them and request a new engagement letter to reflect changes. Notifying your insurance company of your equipment models and serial numbers is another often-forgotten administrative task. As an added precaution, take photos of your equipment and store them in a safe place.

Buying a service agreement (a form of insurance) for the hardware (preferably on site) and software is added protection. Purchasing your software locally provides you with another place to call when a telephone consultation cannot resolve your problem. Of course, no amount of protection can replace the need for good training: initial, follow-up, and on-going. Proper training builds staff confidence in the capability of the PMS to do its job and in your staff's ability to use the hardware and software. This confidence creates an easier transition to the new automated procedures and produces benefits that will flow to other areas of your practice such as happier patients, more timely payments, and faster alerts.

Conclusion

Automation involves considerable change, and change is difficult, which might mean incurring your staff's displeasure. Resignations or dismissals are possibilities. For the long-term, however, you will see improvements. The ease in automating your office depends on many variables, but its success depends largely on your ability to work with your staff in planning, managing, and using the new tool.

As the system's owner, allow computerization to work for you by reviewing it and learning how to "manage" it to help shape the changing structure and strategy of your practice. This will go a long way toward shaping up your practice to meet the demands of the 1990s.

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Highlights: Executive Committee and Council Actions

Executive Committee - September 22, 1988

Minutes The Executive Committee approved minutes of the following meetings as distributed:

Executive Committee, Thursday, August 18, 1988

House of Delegates, April 27 and 29, 1988

Insurance Committee Report Dr. Yosuico reported that the Med Chi Insurance Committee at its meeting on September 20, 1988 endorsed Medical Mutual as the recognized professional liability insurance carrier in State of Maryland. Following discussion of the issue, the Executive Committee agreed to forward its recommendation of endorsement of Medical Mutual to Council, subject to review by legal counsel.

Emergency Care - Prepaid Health Plans As a result of complaints raised by emergency room physicians and problems encountered in their relationship with HMOs, at the request of the Faculty President, the Committee on Third Party Carriers agreed to change its purpose and function to address the HMO matter. The designation of the committee will be changed to the Liaison Committee to Managed Care Programs. The Executive Committee concurred, and the issue will be forwarded to the Bylaws Committee for consideration and presentation at the House of Delegates meeting in April 1989.

Professional Ethics Committee The Executive Committee reviewed the following policy statement on "Discrimination" as requested by the Professional Ethics Committee:

Discrimination:

(d) The Faculty is unalterably opposed to the denial of membership privileges and responsibilities in component medical societies to any duly licensed or qualified physician because of race, color, religion, ethnic origin, a handicapping condition, sex, or national origin; and

(e) The Faculty calls upon all component societies and all individual members to exert every effort to end every instance in which such equal rights, privileges, or responsibilities are denied. (MC 7/12/65; Compendium Revision 1984)

(f) The component medical society is obligated to consider all applications for membership on an equal basis unless there is documented proof of the applicant's unworthiness for membership. (MC 3/12/68)

Following discussion, the Executive Committee adopted a motion to delete Item (e) of the statement and directed that this recommendation be forwarded to Council for approval.

PQAB - PBJ Ruling A petition of the Board of Physician Quality Assurance for a Declaratory Ruling regarding automatic suspension or revocation of a physician's license in PBJ (Probation Before Judgment) was presented and accepted as information by the Executive Committee.

Physician Rehabilitation Loan Program The Physician Rehabilitation Treatment Loan Agreement was reviewed by the Executive Committee, and staff reported that several physicians had begun to repay their loans acquired through the Physician Rehabilitation program. It also was reported that the Ad Hoc Committee will present its recommendations on the following issues to Council on September 24, 1988: (a) should physicians who are not members of Med-Chi participate in the benefits of the Physician Rehabilitation Committee functions? and (b) should such participation include receiving loan monies for treatment and other purposes?

Emeritus Members Voting Rights A recommendation that Emeritus Members of the Council be interpreted as having a vote on the Council was approved by the Executive Committee. This matter will be forwarded to the Council with a recommendation for approval for consideration at its meeting on September 24, 1988.

Med Chi Committee Chairpersons' Meeting Dr. Dobridge reported on the meeting of Med Chi's chairpersons held on September 10, 1988 for the purpose of improving communications between the committees and to discuss the goals for the coming year. Dr. Dobridge recommended this activity be continued during the next presidential term.

Emergency Medical Services Protocol A report of the Committee on Emergency Medical Services addressing the issues of state protocols and the involvement of the private physician in cases of prehospital care was reviewed by the Executive Committee. Following a lengthy discussion, it was agreed that further clarification from the EMS Committee was needed before involvement from Med-Chi is initiated. The issue was tabled until the October 20, 1988 meeting of the Executive Committee.

Princeton Advertising Update The Executive Committee was advised that the Harjes Insurance Agency had submitted an ad for Princeton Insurance to the *Maryland Medical Journal.* Harjes had been asked to clarify certain terminology used in the ad before its acceptance. A letter covering the points raised by the *Journal* was submitted. In addition, Harjes' attorney indicated that a refusal or delay in printing the ad would result in a suit against the *Journal* alleging restraint of trade. Following discussion, the Executive Committee directed that a letter be sent to the State Insurance Commissioner for comment as to whether Harjes appropriately responded to the questions posed by the *Journal.*

MMPAC The question of the inclusion of Auxiliary PAC dues as a line item on the physicians' annual dues bill was presented to the Executive Committee for consideration. Following a lengthy discussion, it was decided not to accept this recommendation for this billing year.

RCTS (Registered Care Technologists) An update on a recent meeting with the nursing community revealed that the nurses are pleased that Med Chi was not sponsoring the AMA RCT proposal. They were assured that Med Chi will continue to work with them

through the nursing crisis and were advised that a nursing resolution would be considered by the House of Delegates on September 24, 1988 in support of possible resolution of the nursing shortage.

Medical Waste Emergency Regulations The Committee was briefed on the medical waste emergency regulations which are scheduled to become effective October 1, 1988. The regulations would place a burden on physicians, that is, additional recordkeeping, arangement for transportation of medical waste to off-site locations, filing of reports to the appropriate environmental agencies. The Committee was assured every effort would be made to delay the implementation of the regulations.

Executive Session Review of the financial status of Med Chi was accomplished and role responsibilities clarified.

Addendum

Telecon 10/4/88 - Mandated Medicare Assignment

On this date, a telephone conversation was held with members of the Executive Committee to review the House of Delegates motion regarding polling the membership for a position on Mandated Medicare Assignment/means test. The Committee agreed on the wording of the motion and authorized correspondence to be sent to component medical societies, *et al.*, notifying them of a special meeting of the House of Delegates to be held at 9 a.m. on Saturday, November 19, 1988, at which time this singular agenda item will be presented to the House.

Council - September 24, 1988

Minutes Minutes of Council and Executive Committee were acted upon as follows:

Minutes approved: Council, Saturday, May 21, 1988

Minutes accepted: Executive Committee, June 16, 1988

Executive Committee, July 21, 1988

Executive Committee, August 18, 1988

Emeritus Membership Council approved the following members for Emeritus Membership, at the request of the component society indicated:

Allegany County
Martin M. Rothstein MD, Frostburg

Baltimore City
Thomas B. Connor MD, Baltimore
Sze-Jui Liu MD, Baltimore

Baltimore County
Thomas M. Holcomb MD, Timonium
Keith A. Manley MD, Lutherville
Lawrence F. Misanik MD, Baltimore
Geary L. Stonesifer MD, Baltimore

Carroll County
Richard Y. Dalrymple MD, Westminister

Harford County
Mary V. Barstow MD, Bel Air
Barry J. Plunkett MD, Aberdeen

Montgomery County
James R. Coleman MD, Wheaton
Jean Feys MD, Silver Spring
Vincent L. O'Donnell MD, Wheaton
Leonard T. Peterson MD, Bethesda
Nicholas G. Pistolas MD, Silver Spring
Norman H. Rubenstein MD, Silver Spring
Teresa S. Spindel MD, Rockville
Francis J. Troendle MD, Rockville
Yilmaz Yamaner MD, Potomac

Prince George's County
Carl J. Houmann MD, Riverdale
Bruno Kolega MD, Camp Springs

Wicomico County
Walter D. DeVault MD, Salisbury
Leonid V. Maldve MD, Salisbury
Raymond M. Yow MD, Salisbury

This information will be forwarded to the House of Delegates with a recommendation for approval.

Dues Waiver Council approved a 1988 dues waiver for the following physicians at the request of the component societies indicated:

Baltimore City
F. Joseph Dagher MD, Baltimore
Miles G. Harrison, Jr., MD, Baltimore

Baltimore County
C. Edmund Rybczynski MD, Baltimore

Montgomery County
Rolf Nieman MD, Silver Spring
T. James Waters MD, Towson

Professional Ethics Committee The following ethical and policy statements were presented by Dr. Louis C. Breschi, Chairman of the Professional Ethics Committee. After discussion, the Council acted on each policy as follows:

MD or DO Assistant's Fee - APPROVED It is ethically permissible for a physician to engage an MD or DO assistant, if the assistance of an MD or DO assistant is in the best interest of the patient. This principle applies whether or not a third-party payor covers this service. The attending physician should inform the patient in advance of the importance of a MD or DO assistant and the fact that the patient may be billed for the MD or DO assistant's fee. In circumstances in which there is an emergency and the informing of the patient is not possible, it would be appropriate for an assisting physician to bill the patient if the third-party payor denies the claim. It is ethically permissible in certain circumstances for a physician to engage other physicians to assist him in the performance of a procedure and to pay a reasonable amount for such assistance, provided the nature of the financial arrangement is made known to the patient. This principle applies whether or not the assisting physician is the referring physician.

Medical Partnerships Between Physician and Non-Physicians - APPROVED Partnership agreements may not be made between physicians and nonphysicians.

Bank Cards - APPROVED The Faculty recom-

mends the following principles be considered before developing a bank card plan:

a. The Faculty discourages participation in any plan exploits or capitalizes on participation by physicians in that plan.

b. Physicians are encouraged to continue the traditional practice of permitting patients of limited means to pay relatively large fees in installments without interest arrying charges. It is unethical for physicians using bank card plans to increase fees for medical services because of this participation, but instead to view such a bank card plan as a convenience for the patient.

c. Delete: The Faculty suggests that plaques or other devices indicating participation in the plan within the physician's office be kept to a discreet and dignified minimum.

Charging Interest on Past Due Accounts - APPROVED c. It is also recommended that prior to administering such an interest charge, the patient be given a reasonable time in which to make payment. Such reasonable time could be set at a 60-day period after receipt of the bill.

Status of "Precare" Program A booklet describing the "PreCare" (Physician Referral for Elder Care) was distributed Council members, and Dr. Lee- Llacer informed Council that a letter of support had been received from Governor Schaefer. Dr. Dobridge took this opportunity to inform the Council that the present budget figure of $50,000 for the total government relations program may be insufficient and will require review for the 1989 budget.

Membership Incentive Program On recommendation of the Executive Committee, the Council approved a motion to implement a two-year membership recruitment demonstration project that will provide monetary credit to Med Chi members who recruit physicians into the society.

Editor of Maryland Medical Journal Council approved the motion to elect Dr. Victor Hrehorovich to the position of Editor for the *Maryland Medical Journal* due to the retirement of Dr. James Zimmerly as Editor. A plaque will be presented to Dr. Zimmerly to commemorate his achievements as Editor.

Physician Rehabilitation Loan Program The following motions presented by Dr. Louis Breschi, Chairman of the Ad Hoc Committee charged with the responsibility to study the issues, were approved by the Council:

(a) Physicians who are not members of Med-Chi can participate in the benefits of the Physician Rehabilitation Committee functions; and

(b) Such participation will include receiving loan monies for treatment and other purposes.

Emeritus Members Voting Rights Dr. Dobridge stated that the Executive Committee had reviewed the issue of voting privileges of Emeritus Members on the Council and took the position that all councilors elected by their component societies should have voting privileges in the Council and, further, recommended that this issue be referred to the Bylaws Committee for action. The Council approved the recommendation of the Executive Committee, and the matter will be forwarded to the Bylaws Committee for review, action, and presentation to the House of Delegates in April 1989.

Insurance Committee Report (Medical Mutual) Dr. Jose Yosuico, Chairman of the Med-Chi Insurance Fund Committee, reported that the Executive Committee had adopted unanimously a motion to endorse Medical Mutual as the insurer for professional liability insurance for the physicians in the State of Maryland.

Discussion revealed that physician subscribers to Medical Mutual were pleased with the personal service provided by Med Mutual when questions arose regarding their professional liability insurance, and it was the consensus that communications had much improved during the past year. Following the discussion, Council adopted the motion of the Executive Committee, endorsing Med Mutual as the insurance company for the physicians of Maryland. Dr. Raymond Yow, Chairman of the Med-Mutual Board of Directors, and Mr. David Murray, President of Med Mutual, were introduced and expressed appreciation for the support of the Council.

Report on Past Resolutions Dr. Lee-Llacer reported on various resolutions adopted during the past year, stating that letters of support on the tobacco resolutions had been received from Governor Schaefer, the Boards of Education throughout the state, as well as other organizations. He also stated that Maryland's resolution adopted by the AMA on the physician discipline reporting issue will serve to clarify the distortion of information provided to the public through the Federation of State Medical Boards publication.

PQAB - PBJ Ruling Dr. Lee-Llacer reported that because the wording in the Maryland law (SB 508) on the Physician Quality Assurance Board required clarification, a petition had been filed with the Board for a declaratory ruling regarding automatic suspension or revocation of a physician's license in Probation before Judgment (PBJ) cases.

Publication of Discipline Commission Actions A letter recently received from a physician expressing his concern on the publication of "findings of fact" in the *Maryland Medical Journal* was discussed.

Dr. Lee-Llacer stated this issue had been before Council three times in the past, and each time Council supported the continuance of publication of disciplinary actions in the *Journal*. On recommendation of Dr. Lee-Llacer and there being no objection, the publication of disciplinary actions in the *Journal* will remain in effect.

Medicaid Program - Emergency Room/OPD Diversion of Services Plan Dr. Dobridge informed the Council on the status of Medicaid's plan to divert emergency patients, classified as nonemergency, to an outpatient setting or private physician's office for treatment. Hospitals will not be reimbursed for those visits not deemed "emergencies." The implementation date, originally targeted for October 1, 1988, has been delayed until January 1, 1989.

Mandated Medicare Assignment - Means Test Dr. Israel Weiner, Chairman of the Legislative Committee, addressed Council on mandated Medicare Assignment Means Test. After much discussion, the Council approved a recommendation to place this topic on the agenda for the House of Delegates' meeting this afternoon.

Medical Waste Emergency Regulations Gerry Evans reported on medical waste emergency regulations of the Department of Environmental Affairs received within the past week. In summary, private physician offices will be classified as "generators" and will be required to meet these regulations for the disposal of medical waste. The implementation date for these regulations is October 1, 1988; however, every effort will be made to delay its implementation.

Building Committee Report Dr. George Malouf, Chairman of the Building Committee, reported on the status and completion of the latest building project, specifically the rededication of the Faculty Library scheduled for today. He further stated that the Faculty is actively pursuing the possibility of purchasing office space in Annapolis.

Dr. Dobridge extended congratulations to the committee for their services and excellent job in the completion of the building project.

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Miscellaneous Meetings

Jan 21 Tenth Anniversary Conference: Daycare in the 90s: A Controversial Reality, sponsored by the Maryland Interdisciplinary Council for Children and Adolescents, held in the Ford Bldg of the Sheppard & Enoch Pratt Hospital from 9 a.m. to 12:30 p.m. (snow date is January 28). Registration requests: Dr. O.M. Taube, Program Chairperson, Greenspring Pediatric Associates, Sinai Hospital of Baltimore, 5105 Lanier Ave., Baltimore, MD 21215 (301-578-5800).

Feb 3-5 Advanced Trauma Life Support Instructor Course, Washington, DC. American College of Surgeons DC Committee on Trauma. Fee: $600; 26 Cat I credits. Info: D. Soto 202-784-2074.

Mar 6-8 NIH Consensus Development Conference: Therapeutic Endoscopy and Bleeding Ulcers, Warren Grant Magnuson Clinical Center, NIH, Bethesda. CME credit offered. Info: Endoscopy, Office of Medical Applications of Research, NIH, Bldg 1, Rm 216, 9000 Rockville Pike, Bethesdsa, MD 20892.

Mar 31 - Apr 2 Symposium: Psychiatry '89, Past Reflections - Future Visions, Stouffer Inner Harbor Hotel, Baltimore, sponsored by Taylor Manor Hospital. Info: 301-465-3322.

Apr 12-16 Third Annual Course in Critical Care Medicine, Center for Bio-Medical Communication in cooperation with Dept of Critical Care Medicine NIH, to be held at Crowne Plaza Hotel in Rockville, MD. Fee: $595 before Feb 1, $695 thereafter; reduced rates available to physicians-in-training and allied professionals. Info: S. Lisanti, Center for Bio-Medical Communication, 491 Grand Ave, Englewood, NJ 07631 (201-385-1808).

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The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1988-1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

Mar 6-8; Jun 19-21 An Advanced Pediatric Life Support Course. Fee: $445; 20 AMA Cat I credits. Enrollment will be limited. Info: C. Goodell 301-955-2959.

Mar 13-15 Spectrum of Developmental Disabilities XI - Dyslexia: Clinical and Research Issues, sponsored by the Society for Developmental Pediatrics, The Kennedy Fellows Association; The Kennedy Institute for Handicapped Children, and the Johns Hopkins Medical Insitutions. Fee: $350; 20 AMA Cat I credits, 20 Cat A credits for psychologists, 2.0 CEUs. Info: C. Kearney 301-955-2959.

Mar 16-18 PET: Imaging of Brain Chemistry with special emphasis on PET as a Clincal Tool in Neurology, Psychiatry, and Neurosurgery. Fee: $390 physicians, $290 residents; 14 AMA Cat I credits. Info: J. Liston 301-955-2959 or J. Buchanan 301-955-8582.

Apr 4-5 In Vitro Toxicology - New Directions. Fee: $250 before Mar 3, $300 thereafter; 14 AMA Cat I credits or 1.4 CEU. Info: C. Kearney 301-955-2959.

May 8-13 Topics in Clinical Medicine. Fee: $630 physicians, $450 residents/PAs and nurse practitioners; 40 AMA Cat I credits. Info: C. Kearney 301-955-2959.

Jun 11-15 VII ISIAN: International Symposium on Infection and Allergy of the Nose - Interational Rhinology Conference, Stouffer Harborplace Hotel, Baltimore. Fee: before Feb 1 - $425 physicans, $300 residents & fellows, thereafter - $475 physicians, $350 residents & fellows; AMA Cat I credit will be available. Info: Congress Secretariat 302-955-2959.

Jun 30 The Retinal Vascular Centyer 19th Anniversary Meeting - Macula, The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

30th Annual Postgraduate Institute for Pathologists in Clinical Cytopathology, solely for Board Certified (or qualified) pathologists as a subspecialty residency. 152 AMA Cat I credits in two courses, **both of which must be taken**.

Feb-Apr Home Study Course A - personal reading and microscopic study at own lab in preparation for Course B.

Apr 24-May 5 In-residence Course B, lecture series, laboratory study, and clinical experience at The Johns Hopkins Medical Institutions, Baltimore.

Loan slide set with texts (Course A) will be sent each participant within the US and Canada for home study during Feb-Apr preceding Course B in Baltimore, Apr 25-May 5. Participants *outside* the US and Canada must make arrangements to study Course A before Course B. *The entire course is given in English.*

Application and preregistration advised ASAP: preregistration must be completed **before Mar 24, 1989**, unless by special arrangement. Info: J.K. Frost MD, 604 Pathology Bldg, The Johns Hopkins Hospital, Baltimore, MD 21205 USA.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: C. Jarvic 301-955-8450.

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CME Courses: For each course additional informa Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956).

Jan 19-20 Behavioral and Developmental Problems in the School-Age Child, Fee: $150; 11 AMA Cat I credits.

Jan 25 Dean's Conference #5: Psychiatry, UMAB. Fee: $25; 6 AMA Cat I credits.

Feb 23 Dean's Conference #6: TBA, UMAB. Fee: $25.

Mar 3-4 Third Symposium on Urologic Cancer and Surgery, Omni International Hotel, Baltimore. Fee: $175; 10 AMA Cat I credits.

Mar 23 Dean's Conference #7: Preventive and Family Medicine, UMAB. Fee: $25; 5.5 AMA Cat I credits.

Apr 26 Dean's Conference #8: Topics in Surgery, UMAB. Fee: $25; 5.5 AMA Cat I credits.

Jun 1-4 Second Annual Trauma Anesthesia and Critical Care Symposium, sponsored by the Maryland Insitute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Development, 11 South Paca St. - Ste 303, Baltimore, MD 21201 (301-328-2399).

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Direct all inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

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Feb 16-17 - Provider
Mar 8-10 - Provider
Apr 13-14 - Provider
May 18-19 - Provider
Jun 15-16 - Provider
Jul 13-14 - Provider
Aug 17-18 - Provider
Sep 13-15 - Instructor
Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider

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PHYSICIANS - FULL/PART TIME FOR FAMILY PRACTICE in Maryland, suburbs of Washington. Salary, bonus, equity participation possible 301-441-1766.

PHYSICIAN WANTED, Family Practice or Internal Medicine, for established, busy, multispecialty practice in the Essex area. Attractive benefits with potential for partnership. Write to Rafael Perez-Mera MD, Charm City Medical Associates PA, 5400 Old Court Rd. - Ste 105, Randallstown, MD 21133.

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MEDICAL OFFICE SPACE RENTAL: prime Frederick location unexpectedly available. Info: Charlene 301-662-2484.

MEDICAL OFFICE SUITE: sale or lease. Hawthorn Professional Center ideally located next to Howard County General Hospital. Available Feb 1, 1989 for lease. 301-997-8847.

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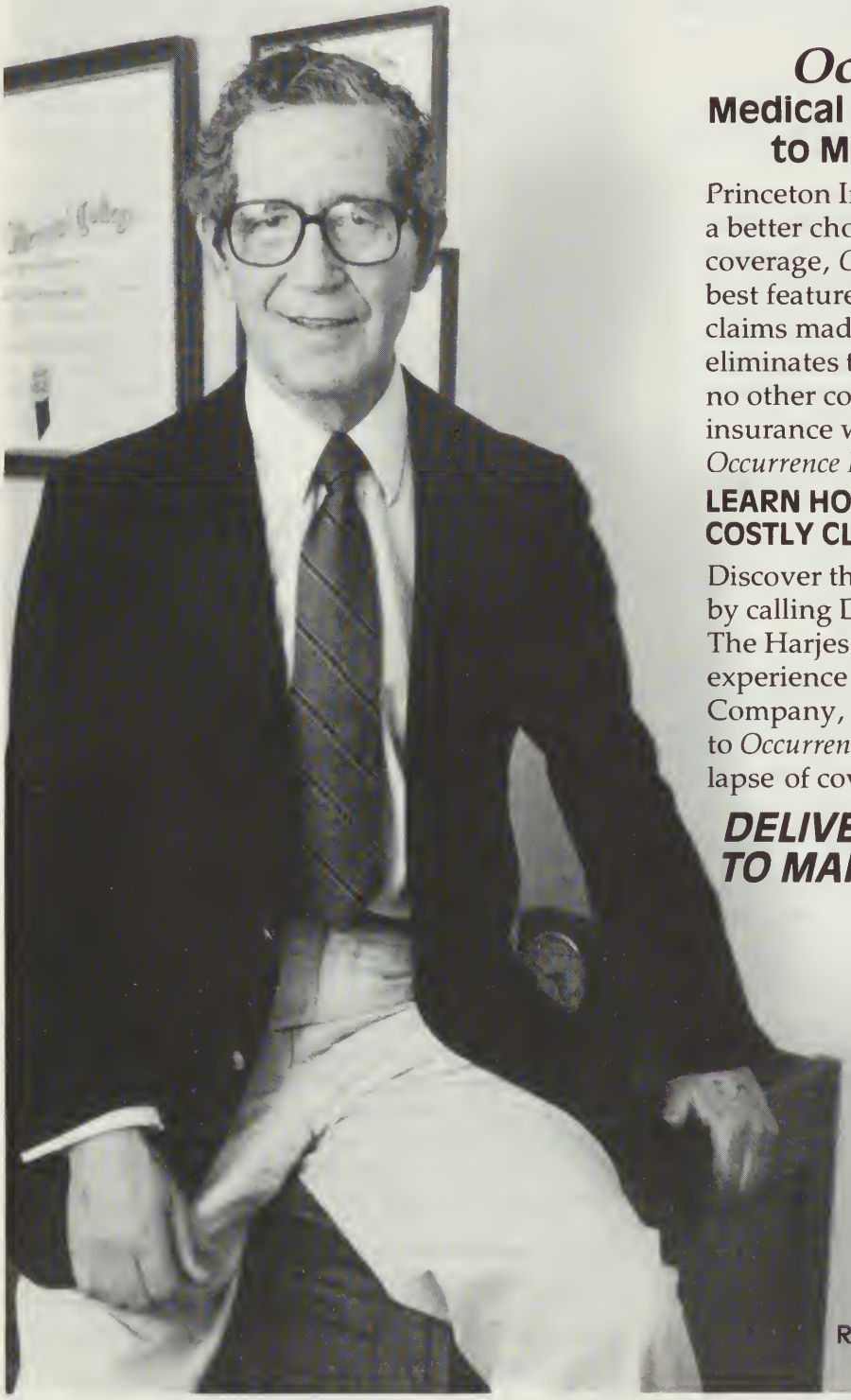
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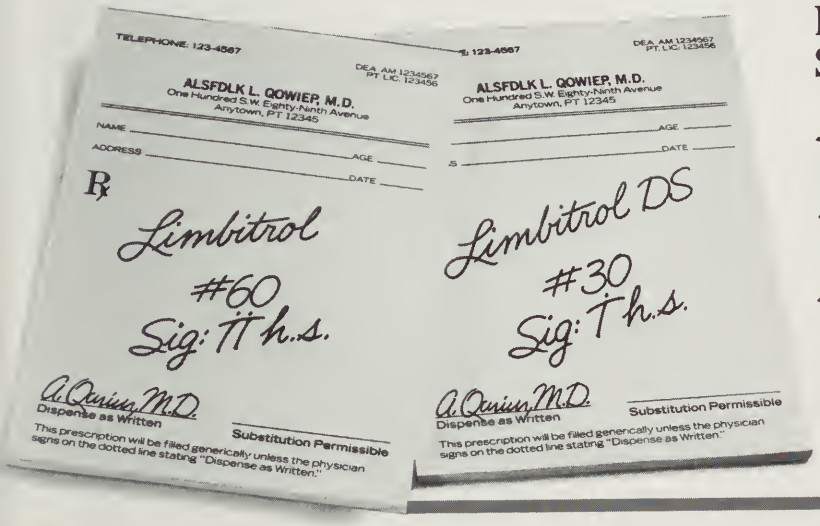
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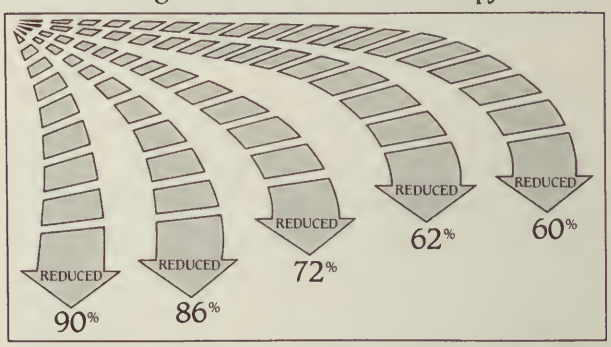
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- First-week reduction in somatic symptoms[1]

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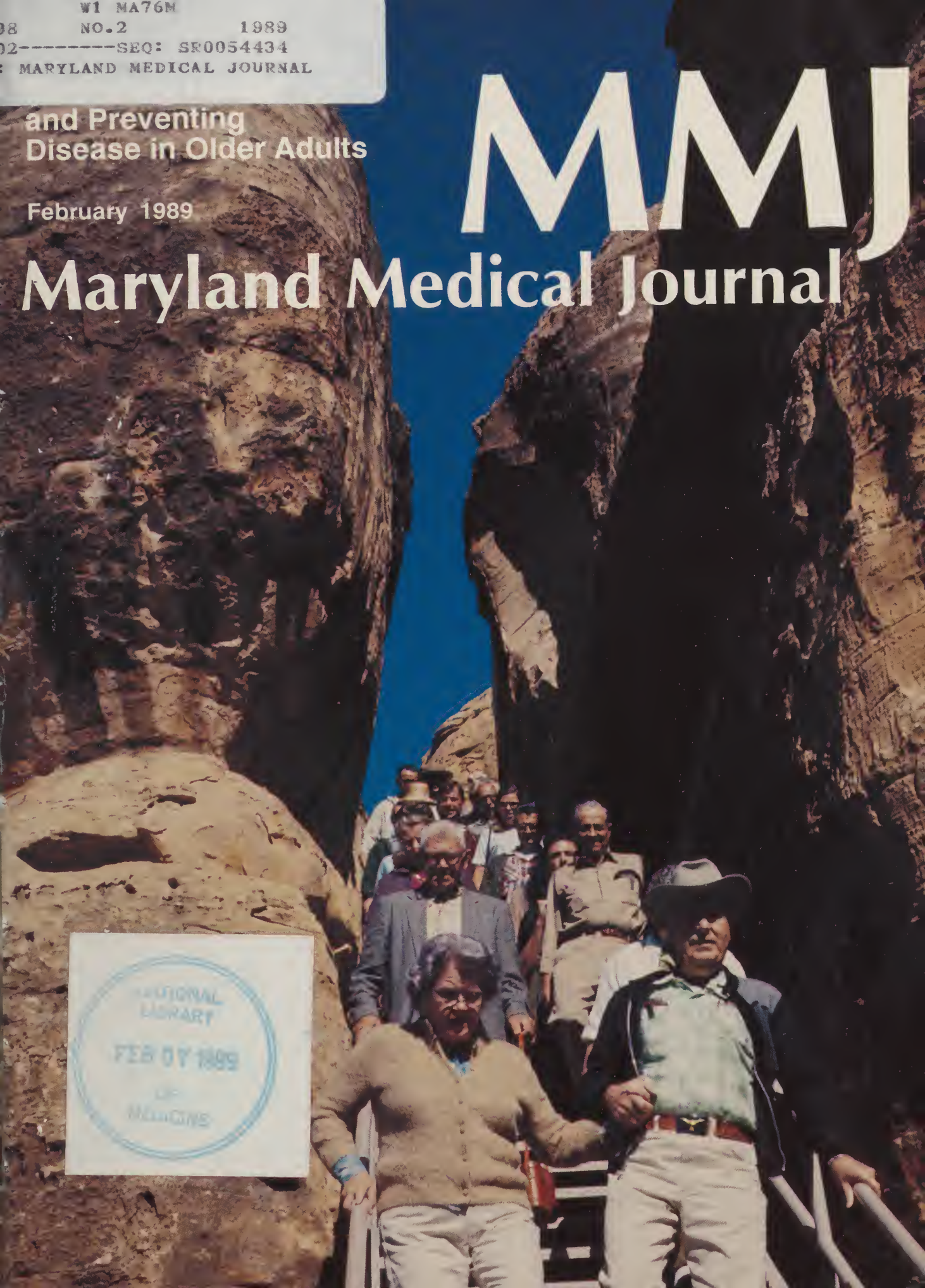
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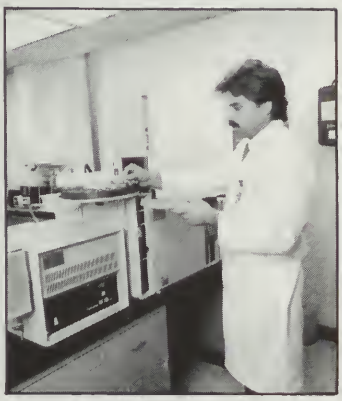
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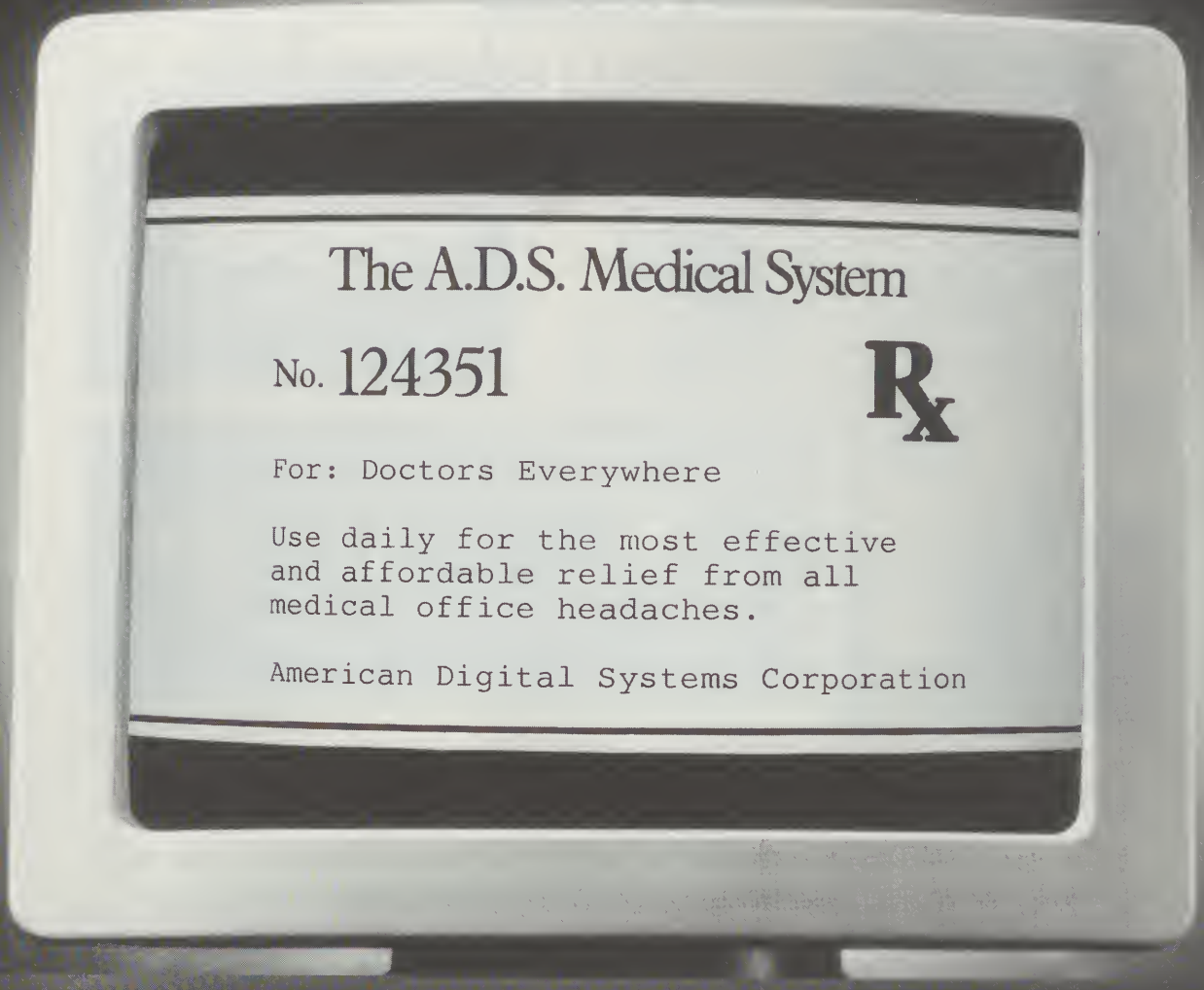
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Cover Photo: Mesa Verde, Arizona by Robert McDowell. The articles beginning on page 113 represent a broad range of thought about health promotion and disease prevention in the care of older adults. Guest editors are Carmine M. Valente PhD and Albert M. Antlitz MD of the Center for Health Education, Inc. George A. Taler MD is consulting editor. Dr. Taler, an Assistant Professor, Department of Family Medicine, University of Maryland, is affiliated with the Geriatric and Gerontology Education and Research Program (GGEAR) of the University of Maryland at Baltimore and chairs Med Chi's Long-term Care and Geriatrics Committee.

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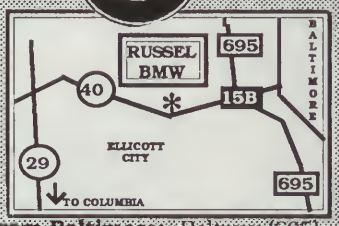
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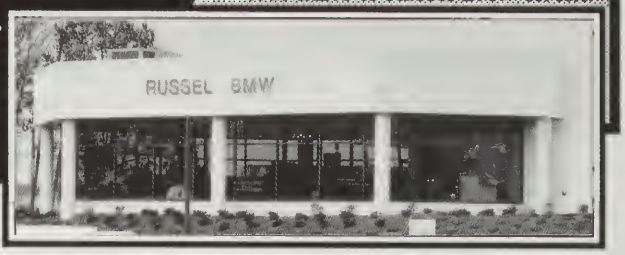
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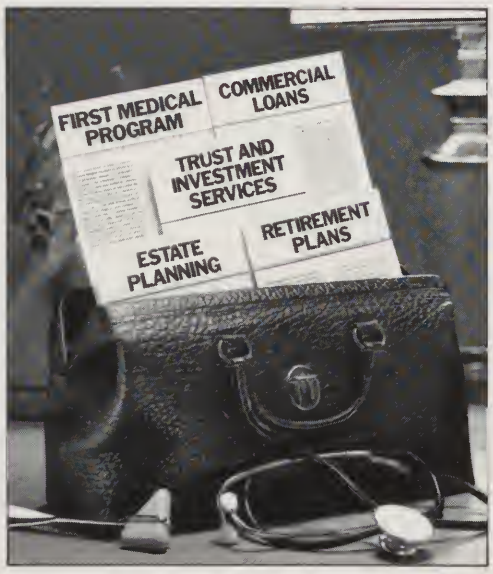
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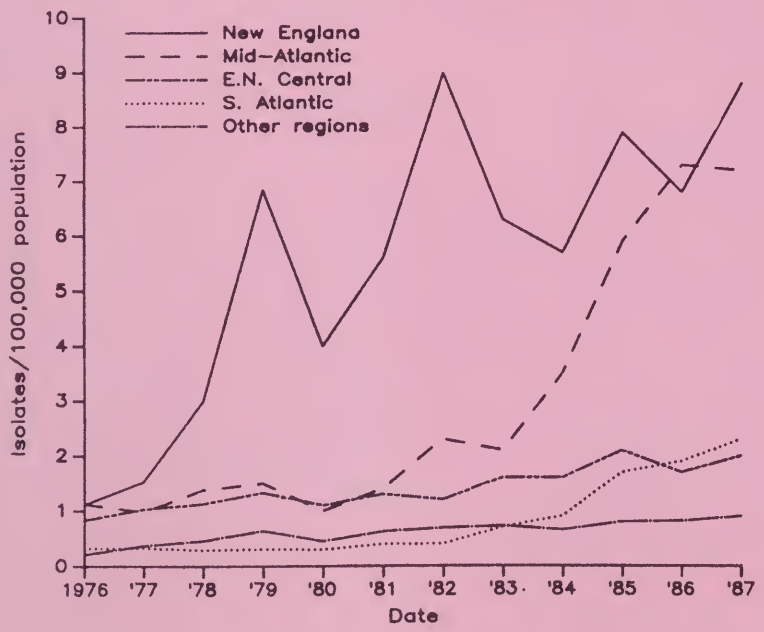
February 1989

Salmonella enteritidis and Grade A Shell Eggs

Salmonella enteritidis (SE) has become the second most common *Salmonella* serotype reported nationally. In the northeast and mid-Atlantic states, the isolation rates of SE have increased greatly over the past five to ten years (Figure 1). In Maryland, SE has gone from 6.2% of isolates in 1981, to 29.4%, and 26.5% in the years 1986, and 1987 respectively; SE was the most common serotype identified in Maryland in these years.

The Centers for Disease Control (CDC) analyzed data from 65 reported outbreaks of SE between January 1985 and May 1987. Twenty-seven (77%) of the 35 outbreaks with identified food vehicles were caused by Grade A shell eggs or foods that contained such eggs (JAMA 1988; 259:2103-7). Continuing association between SE and Grade A shell eggs has been documented in recent outbreaks in New Jersey and New York (MMWR 1988; 37:490,495-6). In Maryland in 1987 and 1988, five of 15 outbreaks of SE had eggs or egg-

FIGURE 1. Isolation rates of *Salmonella enteritidis*, by region — United States, 1976–1987



containing products as the epidemiologically implicated vehicle.

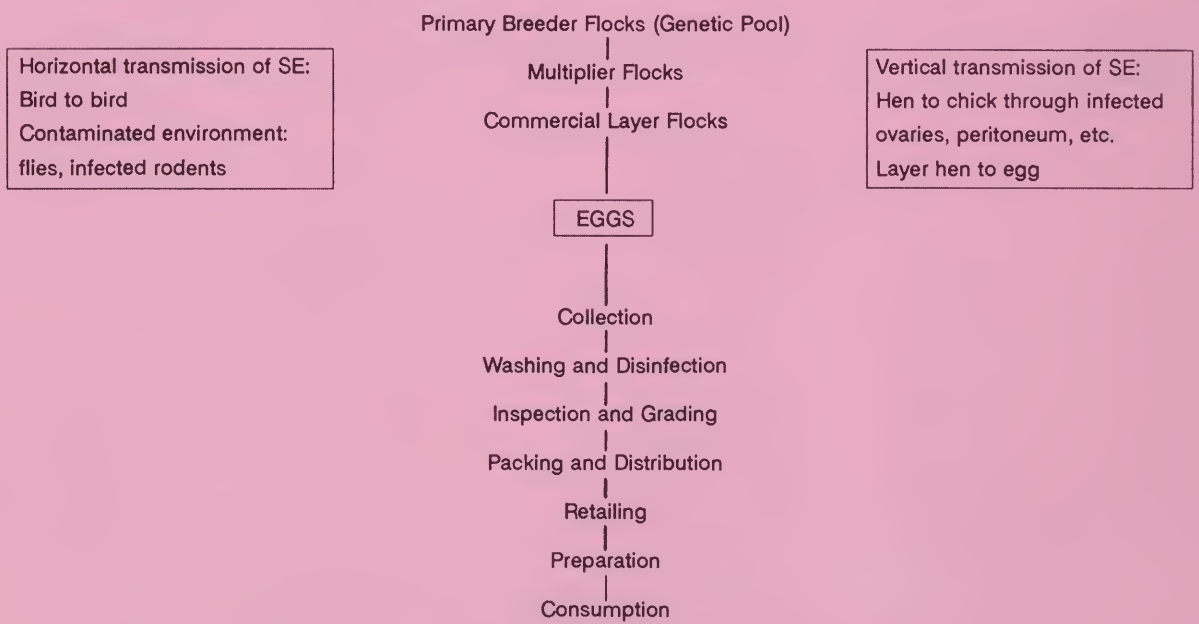
Figure 2 traces the path from the source of layer chickens at the Primary Breeder flocks, through the Multiplier and Commercial flocks, to freshly laid eggs, and to the final steps between egg production and the consumer. Infection of the layer chickens can occur through horizontal or vertical transmission. Infected eggs are still uncommon (1 infected egg of 200 eggs laid by an infected chicken, or an estimated 1 in 10,000 eggs, overall), but steps are necessary to lower the risk of transmission in order to protect the public.

Previous studies have documented that soft boiled eggs, soft poached eggs and "sunnyside" eggs do not reach high enough temperatures for sufficient time to kill *Salmonella.*

CONTROL MEASURES FOR FLOCKS AND EGGS PRIOR TO CONSUMPTION

A Joint Order signed by the Secretaries of the Maryland Dept. of Agriculture and the Dept. of Health and Mental Hygiene became effective on January 1, 1989. The Order requires that all eggs, hatching eggs, and birds for production that are produced, imported, distributed, or sold in Maryland must come from flocks whose owners have provided documentation of adequate testing or of approved origin. This certification may be based upon environmental testing, or serologic test-

Figure 2. *Salmonella enteritidis* **in Eggs: From Chicken to Consumer**



ing of a statistical sample of each flock or upon proof that the flock originated from breeder flocks meeting a similar testing standard. If antibody positive birds are found, the reactors' tissues are cultured for SE. Eggs from flocks found to be culture positive for SE must be pasteurized if they are to be offered for human consumption in Maryland. These Departments are now drafting additional standards aimed at controlling SE in eggs.

The Order and draft standards are consistent with a Model State Program for SE Quality Assurance that has been developed with the support of the FDA, USDA, and the CDC. The program provides for standardized testing, culturing, and control measures.

CONTROL MEASURES FOR FOOD SERVICE IN NURSING HOMES, HOSPITALS, AND FOR THE ELDERLY

The CDC has recently reviewed 18 reported outbreaks of SE infection which occurred in nursing homes and hospitals between 1985 and 1988 (CDC letter to State Epidemiologists, January, 1989). The outbreaks affected 658 persons with 24 deaths (3.6% case fatality rate). An egg or egg-associated vehicle was found in eight of the 18 outbreaks, accounting for 477 cases. Two outbreaks were associated with raw eggs (one used raw eggs in a mayonnaise substitute, and one added raw eggs to hot cereal), three were associated with undercooked scrambled eggs, and three were associated with pureed foods where cross-contamination with raw eggs in a blender was likely.

Menus, recipes, special diets, and food handling practices should be reviewed and modified to prevent the elderly from being exposed to raw and undercooked eggs. The following points merit special emphasis to reduce the risk of institutional outbreaks:

- The safest alternative to fresh shell eggs is to use pasteurized liquid egg products for all recipes calling for bulk pooled eggs. Pasteurized egg is commercially available in 10 pound containers.

- Foods in which eggs are eaten raw are particularly hazardous. These include "homemade" eggnog, mayonnaise, ice cream, hollandaise sauce, and Caesar salads which use raw eggs as an ingredient, or any cooked foods to which raw eggs are added.

- A large pool of eggs may become contaminated by a single infected egg. Practices which result in large pools of whole eggs, egg whites, or egg yolks, cracked ahead of time and held in a large container before cooking are of particular concern. Rapid bacterial growth may occur if the pool is held unrefrigerated. Careful attention to holding temperatures and times, and to thorough cooking is essential.

- Cross-contamination between raw eggs and pureed foods in blenders must be prevented by routine disassembly and

sanitization after blending raw eggs, or by using separate blenders for raw eggs.

CONTROL MEASURES FOR THE PUBLIC

Consumers should:

- Refrigerate eggs at home in their original carton as soon as possible. Do not wash eggs before storing them or using them.

- Cook eggs and egg-containing foods until well done. The yolk and white should both be firm, not runny.

- Avoid eating foods or drinks containing raw or undercooked eggs (home-made eggnog, home-made mayonnaise, home-made ice cream containing raw eggs, hollandaise sauce, Caesar salads, uncooked cookie and cake batter, etc.). Commercial forms of such foods are safe *if* they are made from pasteurized eggs.

- Use special care to thoroughly cook eggs or egg-containing foods served to the elderly, infants, or to other people at high risk of *Salmonella* infections.

- Use Grade AA or A eggs with clean uncracked shells.

- Use raw shell eggs within 5 weeks and hard-cooked eggs within 1 week. Use leftover yolks and whites within 4 days.

- Serve cooked eggs and egg-rich foods immediately after cooking, or refrigerate at once for serving later. Use within 3-4 days.

- (Pasteurized egg products are not available to the non-commercial consumer at this time.)

(Ref. "Consumer Bulletin," USDA, FDA, September, 1988)

SURVEILLANCE AND REPORTING

Patients with diarrhea in whom the physician suspects salmonellosis should be cultured and questioned about possible sources of infection. Cases of salmonellosis, regardless of serotype, are reportable to your local health department or to the state Surveillance Division (301-225-6712). Suspected or confirmed outbreaks of any type of *Salmonella* are also reportable to your local health department or the the state Division of Outbreak Control (301- 225-6677). Outbreaks are intensively investigated, and if eggs are implicated, the distributor of the eggs and the source flock are determined and investigated. Information from all such investigations is shared with the CDC as part of the ongoing national surveillance and control effort.

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Medical Miscellany

Baltimore Metropolitan Chapter American Diabetes Association

The new Baltimore Metropolitan Chapter of the American Diabetes Association serves the needs of Baltimore County and Baltimore City. Patients and family members are invited to join these functions:

- General Membership meetings, the second Friday of every month at 7:30 p.m. at Eastern Star Lodge, 3 Walnut Avenue, Overlea. Different topics are discussed each month.
- Child and parent support groups meet the fourth Friday of every month at GBMC. Children and parents meet separately for one hour (children 6 to 10 years and partnts at 7 p.m.; teens and parents at 8 p.m).

The Chapter would appreciate your input relative to patient or professional needs. For more information call 301-668-4829.

LORETTA CLARK RN, CDE
Chairperson, Professional Education
Baltimore Metropolitan Chapter

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One Minute with Diabetes

Urine Testing vs Blood Glucose Monitoring

Doctor, my mother had diabetes for 20 years. She tested her urine for glucose regularly. Why is it that you do not want me to do urine testing but insist on self-monitoring of blood glucose? It is more expensive and more painful than urine testing.

There has been a considerable change of opinion as to what is adequate control of diabetes since your mother's era of treatment. In her day, self-monitoring of blood glucose was not available. Many clinicians and patients believed avoiding the extremes of ketoacidosis and hypoglycemia was the acceptable standard of care. Now, only patients who are unwilling or unable to do blood glucose testing should be taught urine glucose testing. Patients need to know that the renal threshold is variable, but as a general rule urine glucose will be positive when blood glucose is greater than 250 mg/dl.

For the urine test to provide the most useful information, patients should be taught to check second voided specimens. The bladder should be emptied, and then a glass or two of water should be drunk. After waiting 15 to 30 minutes, the urine specimen is collected and tested promptly.

It must be remembered that whatever method is used for urine glucose testing, it is only semiquantitative. For example, a 2 percent urine test cannot be accurately correlated with a specific blood glucose. Some tests are designed to be more sensitive than others, and blood chemicals excreted in the urine may affect the accuracy of one or another of the methods of testing for glucose.

The test for urine ketones should be taught as an emergency measure to be done whenever the blood glucose is 240 mg/dl or greater. Acetest Tabs or Ketostix may be used to test for ketonuria. The well-trained diabetic patient will need to use this test infrequently. The individually foil wrapped strips are preferable and have less risk of deterioration and damage. A finding of ketonuria plus hyperglycemia should be reported immediately to the physician.

For accuracy the urine glucose test vs blood glucose monitoring can be roughly compared to checking the temperature of water with a finger vs a thermometer. The instrument reading is certainly more meaningful.

DeWITT E. DeLAWTER MD
Editor

We invite your comments as well as scientific articles. Write *Letters to the Editor* and *Commentary* *MMJ*, 1211 Cathedral St, Baltimore, MD 21201

Elder Love - A New Way of Caring

The middle-aged woman hesitates at the open door to the meeting room and glances nervously at the group of 12 men and women seated in a circle in the middle of the floor. A smile and a gesture from the group leader encourage her to enter and to take a seat.

She listens to the discussion, her eyes lowered, for several moments. Suddenly she is being asked to tell her story. She hesitates, then begins an emotional account of her life as caregiver to her aging mother and father. Tears flow, and a gentle hand is placed reassuringly on hers. She is overcome with relief and a feeling of being understood and accepted that she has needed for so long. Elder Love Support Group welcomes a new member.

This scenario, in varying detail, is repeated again and again in the library meeting room in Hagerstown. It is there that Elder Love holds its monthly meetings for caregivers of aging relatives. Organized in October 1986, the group continues to provide much-needed support for an ever-increasing segment of the population.

Washington County Auxilians Roberta (Mrs. Edmund) Niklewski and Marty (Mrs. Hugh) Talton are co-founders of Elder Love. The idea for such a group arose from a personal need. Marty was involved in the long-distance care of a widowed mother and was feeling the frustrations inherent in such an arrangement. "I always felt relieved when I could talk with someone who had cared for an aging parent and could give some perspective to the feelings I was having," Marty related. "If this kind of sharing of experiences could help me, I thought it might benefit others as well." She approached fellow Auxilian, Roberta (Bobbie) Niklewski, who had cared for her mother and mother-in-law, both Alzheimer patients, in her home and knew firsthand the problems and emotions of the caregiving situation. Together Marty and Bobbie agreed that a support group could be an invaluable service to a large number of people in the community; Elder Love was born.

The first task was to establish guidelines and objectives for such a support group. Once the groundwork for the group was laid, it was time to see whether it would work. An ad announcing the formation of the group and the date of the first meeting was placed in the local paper. Bobbie and Marty waited to see if anyone would come. Thirteen people attended that first meeting in October 1986, and many of them are still members of the group.

Caregiving takes many forms. Not all people care for their ill or aging parents in their own homes. Sometimes the parent lives alone, and the caregiver runs errands and looks in daily. In other cases the parent or relative is so ill or incapacitated that he or she must be placed in a nursing home. Some people are "long-distance" caregivers. The common thread is the responsibility and concern that all these caregivers feel for the relative they love. In the Elder Love group there are men and women, mothers and daughters, sisters and brothers, and professional caregivers who drop in occasionally to listen and to give suggestions. Meetings are open to anyone involved with an aging relative. A testimony to the success of the group is the fact that some members continue to attend even after the death of their loved ones because they have formed such close bonds with other group members.

The format of an Elder Love meeting is designed to carry out the objectives set forth for the group: to provide emotional support and practical information to caregivers. Of primary importance is the sharing of concerns and experiences among the members, and ample time is allotted for this exchange at the beginning of each meeting. At times people express anger, guilt, and frustration. Positive suggestions are offered for dealing with these emotions. The open and non-judgmental atmosphere at an Elder Love meeting encourages participation.

The topic is presented by a group facilitator or by a resource person brought in from the community. Resource people give a short presentation and then lead the discussion. Recent topics include: "Warning, Caregiver Needs Help!" "When Is a Nursing Home the Answer?" "Keeping Your Sense of Humor," and "How Would You Like to Be Old?" Resource people have included a lawyer, psychiatrist, social worker, and bereavement counselor. Program plans are published several months in advance. Ideas often come from the membership as they indicate subjects that would be helpful and informative to them.

With her experience in psychiatric nursing, Bobbie often acts as facilitator for the meetings. Marty enjoys the administrative details of the organization. Their individual skills have come together in a very efficient balance.

The Auxiliary to the Washington County Medical Society, The Washington County Commission on Aging, and a local Presbyterian Church are co-sponsors of Elder Love. They supply both monetary and administrative support. The Auxiliary, which has many nurses in its membership, offers respite care in the Elder Love members' home so that they can leave their relatives to attend meetings. Auxiliary members often attend meetings, and some have acted as group facilitators and resource people.

Community response to Elder Love has been encouraging. Attendance at meetings continues to grow and reached 35 or so at a recent meeting. Bobbie and Marty have spoken to several civic organizations in an effort to spread the word about Elder Love, and some of these groups have been most generous in their support of the program. The question the organizers are now facing is "Where do we go from here?"

Auxilary to the Medical and Chirurgical Faculty of the State of Maryland. Mrs. Eva Edmonds President; Mrs. Betty J. Molz Editor.

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The need for caregivers' support groups is certainly not limited to Washington County. Bobbie and Marty look forward to the establishment of new Elder Love groups in neighboring communities, other Maryland cities, and perhaps even nationwide. "We believe the Auxiliary with its superb organization and many capable members might be on vehicle for taking the Elder Love concept to other areas," says Marty. Toward this end, they are working on a caregivers kit that will provide information on a variety of topics from safety in the home to emotional changes in the elderly. They have just completed a slide presentation that gives an overview of Elder Lover and are designing a workshop on "How to Start and Elder Love Chapter in Your Community."

"Things don't always move as quickly as we would like," says Bobbie who has recently been appointed the Nursing Administrator for the newly created Alzheimers and Related Disorders Clinic in Hagerstown," but we will keep spreading the word and hope the program will continue to grow and to reach more people."

The closing of the slide presentation tells the story: Elder Love is meeting the needs of the caregivers and enriching the lives of the aging. For information on Elder Love, write Elder Love, PO Box 2737, Hagerstown, MD 21741-2737.

MARTY TALTON, President
Washington County Auxiliary

PHYSICIAN PLACEMENT SERVICE

The Medical and Chirurgical Faculty of the State of Maryland maintains a Placement Service for the convenience of Maryland physicians, hospitals and communities in search of candidates for positions available in our state. A detailed description of such opportunities should be forwarded to the Physician Placement Service, 1211 Cathedral St., Baltimore, MD 21201; telephone 1-301-539-0872.

Physicians wishing to locate in Maryland are invited to submit a resumé to be kept on file with the Physician Placement Service. Candidates are requested to inform the Faculty when they are no longer available for consideration for opportunities which might be available in Maryland.

Journal announcements on the Classified Advertising page for Physician Placement Service are charged at the regular Classified Advertising rate.

Library Page

Selected Acquisitions: July-September 1988

The following books were received recently by the Med Chi Library. All of them may be used in the library. Those that are reference materials or the most recent editions of core list textbooks do not circulate. However, older editions of these items as well as noncore list books can be checked out by members. Please contact the Public Services Department (Sharon Seide, ext. 343 or Darryl Coward, ext. 344) for help in accessing these books or others in the library's collection.

American Academy of Orthopaedic Surgeons. *Emergency Care and Transportation of the Sick and Injured*, 1987.

American Academy of Pediatrics. *Guidelines for Perinatal Care*, 1988.

ABMS Compendium of Certified Medical Specialists. American Board of Medical Specialists, 1988-89.

Arndt. *Manual of Dermatologic Therapeutics with Essentials of Diagnosis*. Little, Brown, 1988.

Billups and Billups. *American Drug Index*. Lippincott, 1988.

Blair. *Resource Manual for Guidelines for Exercise Testing and Prescription*. Lea & Febiger, 1988.

Bulger. *In Search of the Modern Hippocrates*. University of Iowa, 1988.

Churchill. *Rationing Health Care in America: Perceptions and Principles of Justice*. University of Notre Dame, 1988.

A Compendium of State Peer Review Immunity Laws. American Medical Association, 1988.

Deitch. *Health in Day Care*. American Academy of Pediatrics, 1987.

Dubovsky. *Concise Guide to Clinical Psychiatry*. American Psychiatric Press, 1988.

Encyclopedia of Associations. Gale Research Co., 1989.

Hamilton and Guidos. *MASA: Medical Acronyms, Symbols, and Abbreviations*. Neal-Schuman, 1988.

Harvey. *The Principles and Practice of Medicine*. Appleton & Lange, 1988.

Horsley. *Testifying in Court: a Guide for Physicians*. Medical Economics, 1988.

Kacen. *Opportunities in Paramedical Careers*. NTC Publishing Group, 1983.

Lederman. *Health Career Planning*. Human Sciences Press, 1987.

Maryland Business Almanac. Baltimore Sun, 1988.

McKusick. *Mendalian Inheritance in Man*. Johns Hopkins University 1988.

Medical and Health Care Books and Serials in Print. Bowker, 1988.

Medical School Admission Requirements. Association of American Medical Colleges, 1988.

Norwood. *Occupational Outlook Handbook*. NTC Publishing Group, 1988-89.

Physician Supply and Utilization by Specialty: Trends and Projections. American Medical Association, 1988.

Rhinology: the Collected Writings of Maurice H. Cottle, M. D. American Rhinologic Society, 1987.

Rowe. *Geriatric Medicine*. Little, Brown, 1988.

Smith. *Living with Medicine*. American Psychiatric Association, 1988.

Swanson. *Careers in Health Care*. NTC Publishing Group, 1984.

Taylor. *Family Medicine: Principles and Practice*. Springer-Verlag, 1988.

Tripp. *The Homosexual Matrix*. New American Library, 1987.

USAN and the USP Dictionary of Drug Names. U. S. Pharmacopeial Convention, 1989.

New Journal Subcriptions--1989

Anesthesiology Clinics of North America
Clinics in Chest Medicine
Clinics in Sports Medicine
Emergency Medicine Clinics of North America
Journal of Vascular Surgery
Obstetrics and Gynecology Clinics of North America
Time
Urologic Clinics of North America



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Executive Director's Newsletter

February 1989

PHYSICIAN PROFILE REVIEW

Recently the Faculty has received inquiries from physician members concerning their "profiles" under BCBS of Maryland. Any physician requesting such a review may write to Cynthia M. Stys, Manager, Professional Contracting and Reimbursement, 700 East Joppa Road, Towson, MD 21204 (301-494-5042). Physicians in Prince George's or Montgomery County who are served by BCBS of the National Capitol Area may call Becky McKay, Professional Services at 202-479-3576 for similar information.

MARYLAND MED SIG BULLETIN BOARD

Med Chi's Public Relations Committee in a cooperative effort with the Committee on Computers has recently designed a new communications service specifically for Med Chi Messages. The service, which will be available to all component societies and member physicians through the Maryland Med Sig computer bulletin board system, will provide announcements as well as updates on programs and events at Med Chi and around the state. In addition, questions or requests for clarification of any announcement may be entered directly into the system, allowing Med Chi to respond to any issue almost immediately. For more information regarding the Maryland Med Sig Bulletin Board System, contact Betsy Newman at 301-539-0872 or 1-800-492-1056.

AMA POLICY ON RBRVS

At its Interim Meeting in Dallas in December, the AMA House of Delegates adopted the position (Report AA), which states that the Harvard RBRVS would be an acceptable foundation for a Medicare indemnity payment system if it is sufficiently expanded and refined. The AMA is working in conjunction with the Physician Payment Review Commission (PPRC) who maintain that they hold the primary responsibility for developing a complete RVS approach for physician payment under Medicare.

WORKERS' COMPENSATION COMMISSION GUIDE

Effective December 15, 1988, the Maryland Workers' Compensation Commission has adopted "Guide for Evaluation of Permanent Impairment." The American Medical Association's "Guides to the Evaluation of Permanent Impairment" (AMA, 2nd ed., 1984) is incorporated into this document. Since the adoption, the AMA's "Guides" was revised (AMA 3rd ed., 1988). The Commission will be making a determination as to how to proceed with the incorporation of this new edition into COMAR.

FLU VACCINES

The Maryland State Health Department plans to educate the physicians and persons over 65 on the use of pneumococcal vaccine. Public health officials are encouraging physicians to offer pneumococcal vaccine along with the influenza vaccine in their offices. Medicare and Medical Assistance will reimburse the cost of pneumococcal vaccine but not the cost of the influenza vaccine. For more information contact Barry Trostel, Department of Health and Mental Hygeine, 301- 225-6677.

PRECARE

PreCare, jointly sponsored by Med Chi, component societies and the Maryland Office on Aging, is a statewide telephone referral service for seniors seeking care on assignment. The program is accepting the names of physicians who do not participate in Medicare assignment physicians but <u>are</u> interested in taking part in PreCare. Any interested physicians should contact Betsy Newman, (301)-539-0872 or 1-800-492-1056.

Angelo J. Troisi, FACHE
Executive Director

Medical and Chirurgical Faculty of Maryland
191st Annual Meeting
April 12 - 14, 1989

Turf Valley Hotel and Country Club, Ellicott City, Maryland

(Tentative Schedule)

WEDNESDAY, APRIL 12, 1989

8:30 a.m. Council
9:30 a.m. House of Delegates
12:15 p.m. Free Lunch in the Exhibit Halls
Auxiliary Luncheons
2:00 p.m. Plenary Session -
Congressman Tom McMillen
2:00 p.m. Auxiliary Meeting
3:40 p.m. Exhibitor Sweepstakes Drawing
4:00 p.m. SCIENTIFIC SESSIONS
"Aids"
"Overview Of Gynecologic Oncology"
"The Psychiatric And Medical Problems Of The Homeless"
"Imaging Update For The Practicing Pediatrician"
"Caring For The Industrial Back Pain Patient"
5:30 p.m. MMPAC Reception and Cabaret
("Capitol Steps")

THURSDAY, APRIL 13, 1989

7:15 a.m. PRAYER BREAKFAST - "Medical Ethics - Code Or No"
8:45 a.m. SCIENTIFIC SESSIONS
"Heart Disease 1989: New Technologies And Techniques"
"Lasers And Heart Disease"
"The Caring Physician: Back To The Basic Issues"
"Medicare Fraud And Abuse"
9:00 a.m. Auxiliary Business Meeting
10:15 a.m. Intermission
10:45 a.m. SCIENTIFIC SESSIONS
"The Long Term Management Of The Chronic Obstructive Pulmonary Disease (COPD) Patient"
"Pulmonary Rehabilitation"
"Breast Reconstruction"
"Treating The Musicians Among Your Patients"
"The Pen Is Mightier Than The Sword"
"The Primary Care Physician's Role In The Management Of Acute Coronary Disease"
12:15 p.m. Free Lunch In The Exhibit Halls
12:30 p.m. Auxiliary Luncheon

THURSDAY, APRIL 13, 1989 (Afternoon)

2:00 p.m. SCIENTIFIC SESSIONS
"Cardiopulmonary Resuscitation - Every Patient's Right - Or Exercise In Futility?"
"Lipid Measurement Issues For Clinicians"
"Chronic Urticaria And Allergic Skin Disease"
"What To Do With The Opposite Breast"
"Physician Quality Assurance Board"
3:00 p.m. Auxiliary Business Meeting
3:30 p.m. Intermission
3:40 p.m. Exhibitor Sweepstakes Drawing
4:00 p.m. SCIENTIFIC SESSIONS
"Ethical Concerns On The Care Of The Elderly"
"Are Arterial Blood Gases Obsolete: Reflections On The Evolution Of Patient Monitoring"
"Pain And Performance - Musculoskeletal And Neurologic Problems In The Performing Arts"
"Stroke In The Young"
"Clinical Application Of 201 Thallium (STECT) Imaging In Myocardial Disease"
7:30 p.m. Auxiliary Social Function

FRIDAY, APRIL 14, 1989

8:45 a.m. SCIENTIFIC SESSIONS
"Reanimation Of The Paralyzed Face Without The Facial Nerve"
"Next Button Please - A Glimpse At Computer Assisted Teaching"
"Emergency Medicine: Character Of An Evolving Specialty"
10:15 a.m. Intermission
10:45 a.m. SCIENTIFIC SESSIONS
"Coping With Stress In The Physician's Family"
"Photophoresis And T Cell Lymphomas"
"AIDS Ethics, The Duty To Warn And The Refusal To Treat"
"Ophthalmological Problems Common To All Physicians"
"Orthopedics Overseas"
"What's New In Carpal Tunnel Surgery?"
2:00 p.m. House of Delegates
6:30 p.m. Presidential Banquet

Med Chi would like to express its appreciation to all component societies for their cooperation in our recent effort to provide medical services to victims of the catastrophic earthquake in Armenia. We would like to acknowledge the following physicians who unselfishly volunteered their services for this effort:

Allen Brecher, MD
Lewis M. Burdette,MD
Edward B. Byrd, MD
James Byrkitt, MD
Paul Caumey, MD
Andrew Clark, MD
John W. Clark, MD
David Corn, MD
Thomas Craig, MD
John A. Dowling, MD
Seth Eaton, MD
Mark Eig, MD
Michael Fadden, MD
Paul Fleury, MD
David Foley, MD
Don J. Fontana, MD
Antonio J. Gargurevich, MD
Robert A. Goralski, MD
Ronald Gregor, MD
Sombat Grigorian, MD
Patrica A. Gurny, MD
R. Norton Hall, MD
Ernest Hanowell, MD
Ken Hauck, MD
Eldon Hawbaker, MD
Francisco G. Japzon, MD
Thomas C. Jones, MD
Stephen Lackner, MD
Martin Kanovsky, MD
Lewis Kellert, MD
David Kessler, MD
Alan Kravitz, MD
Jaime Marquez, MD
Mark E. Mausner, MD
Paul McGroarty, MD
William L. Montague, Jr, MD
William B. Moore, MD
Abol Pourhamidi, MD
Harvey Resnick, MD
Sanford Richman, MD
Gerald J. Scallion, MD
Frank Seinsheimer, MD
Sol Shaz, MD
Steven Smith, MD
James Stanton, MD
Harold Tritch, MD
Ronald Wong, MD
Thomas G. Webster, MD
Scott Weitel, MD
Ann Wilke, MD
Jeffrey Wilte, MD
Farshad Paul Yazdani, MD

In addition, Med Chi wishes to thank the following medical personnel who also volunteered their services:

Ms. Gail Chapin, RN
Gary Fennel, PA
Jay G. Harper, PA
Tony Moreno, PA
Ronald Swain, PA
Rousan Travers, PA
Ms. Lorrick Wong, RN

Quality Practice Digest

LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state.

The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland.

TREATMENT OF CONTAGIOUS PATIENTS

The following ethical opinion was adopted by the Faculty at its November 1987 meeting. The opinion addresses the ethical responsibility of a physician to treat a contagious patient, including AIDS or HIV positive patients.

> A physician may freely choose the patients he wishes to treat. However, fear of contagion should not be the sole reason a physician refuses care. A physician is obligated to render emergency care in situations where other adequate emergency services are not available.
>
> A patient is entitled to freely choose his physician. A patient may abrogate this right by contract.
>
> A patient must also be free to choose the specialist for his treatment. This right may be limited by hospital privileges.
>
> If a physician feels the need to refer a patient or feels incapable of providing adequate care to a patient, the referring physician has a duty to refer the patient to qualified specialists. Should a physician and patient disagree, the physician should explain his choice of referral. However, the choice is ultimately the patient's.

Also in November 1987, the AMA's Council on Ethical and Judicial Affairs released a report on the Ethical Issues Involved in the Growing AIDS Crisis. The report concluded that "A physician may not ethically refuse to treat a patient whose condition is within

the physician's current realm of competence solely because the patient is seropositive [to the AIDS antibody]. Persons who are seropositive should not be subjected to discrimination based on fear or prejudice."

The AMA Council on Ethical and Judicial Affairs also stated that the Council believes that:

- Physicians are dedicated to providing competent medical service with compassion and respect for human dignity.

- Physicians who are unable to provide the services required by AIDS patients should make referrals to those physicians or facilities equipped to provide such services.

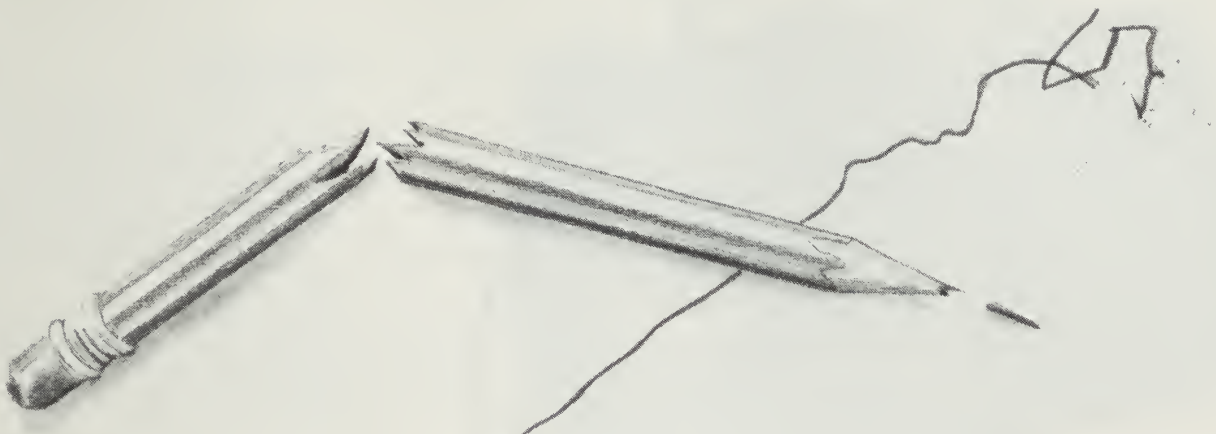
- Physicians are ethically obligated to respect the rights of privacy and the confidentiality of AIDS patients and seropositive individuals.

- Where there is no statute that mandates or prohibits the reporting of seropositive individuals to public health authorities and a physician knows that a seropositive individual is endangering a third party, the physician should: (1) attempt to persuade the infected patient to cease endangering the third party; (2) if persuasion fails, notify authorities; and (3) if the authorities take no action, notify the endangered third party.

- A physician who knows that he or she is seropositive should not engage in any activity that creates a risk of transmission of the disease to others.

- A physician who has AIDS or who is seropositive should consult colleagues as to which activities the physician can pursue without creating a risk to patients.

Physicians also need to be aware that not only is there an ethical duty to treat an AIDS or HIV positive person, unless the physician lacks the expertise to do so, but also legally a physician may not discriminate against such a person. In May 1988, the State Commission on Human Relations concluded that the Commission had jurisdiction over dentists and physicians and would investigate allegations of discrimination against health care providers who refuse to treat AIDS patients.



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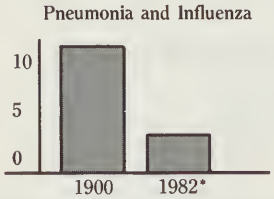
Center for Health Education, Inc.

The Center for Health Education, Inc., a non-profit organization, was established on April 12, 1982 to be a resource to physicians in enhancing their disease prevention and educational skills. CHE originated as a joint venture of the Medical and Chirurgical Faculty of the State of Maryland (Med-Chi, the State Medical Society) and Blue Cross and Blue Shield of Maryland.

The concept for CHE began with Med-Chi physicians who recognize that traditionally, medical education does not emphasize the skills physicians need to successfully educate their patients. This concept was supported by Blue Cross and Blue Shield of Maryland, which acknowledges that successful patient education can have a positive impact on the utilization of health services.

Physicians and Disease Prevention

Physicians have been in the forefront of influencing the dramatic decline in premature deaths caused by infectious diseases.



Physicians can be just as effective today. Perceived by the public as the best and most reliable source of health messages, physicians can have a substantial impact on those lifestyle behaviors which, more so than ever before, significantly contribute to the causes of avoidable morbidity and premature mortality such as heart disease and cancer.



In addition, the physicians are in a position to personalize their advice for the individual patient, as well as reinforce those recommendations over time.

Source: National Center for Health Statistics.

Education for Health

Patient education is a process that provides people with information, encouragement and help in adopting healthful lifestyles and adhering to medical advice.

The use of patient education strategies and techniques can result in:

- increased compliance to medical advice
- positive changes in lifestyle habits
- improved patient satisfaction
- fewer broken appointments
- fewer complaints about medical care

Functions

RESEARCH: Assess physicians' needs in disease prevention and health promotion, their current practices and the obstacles they encounter in the educational process.

DEVELOPMENT: Design physician educational materials and programs to increase physicians' awareness, skills and expertise in patient education.

IMPLEMENTATION: Disseminate materials and conduct Continuing Medical Education programs to assist physicians in educating patients.

Accreditation

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Care of Older Adults

The Center for Health Education, Inc. (CHE) is pleased to present this issue of the *Maryland Medical Journal* on Disease Prevention and Health Promotion in the Care of Older Adults, developed in cooperation with the Geriatric and Gerontology Education and Research Program (GGEAR) of the University of Maryland at Baltimore and Med Chi's Long-term Care and Geriatrics Committee.

With the "graying of America," increased attention is being paid to a variety of disease prevention and health promotion activities including nutrition, dentition, exercise, vision, hearing, and immunization. Since these activities may enhance productivity into later years and extend functional lifespans, they present a challenge to the medical profession.

The implication for greater physician involvement in the education, treatment, and care of older adults is striking. Physicians are in a key position to intervene successfully with this population. While there are barriers to widespread incorporation of prevention in primary care, physicians have the capability to narrow the treatment-prevention gap.

The opening article by Jay Magaziner PhD provides demographic and epidemiological data concerning older adults that highlight the need for community based prevention approaches. Linda P. Fried MD follows with an article on Preventive Practice in Primary Care. The components of recommended health care practice for older adults are reviewed.

A series of specific health maintenance issues with respect to the elderly follow as brief clinical updates.

Peter P. Lamy PhD, ScD follows with an article, "Pharmacotherapeutics in the Elderly," describing prescription drug use and drug use patterns, adverse consequences of polymedicine, types of drug interactions, and factors associated with compliance in the elderly.

The next article, by James P. Richardson MD and colleagues, deals with Rehabilitation in the Elderly.

The concluding article by Diane E. Hoffman JD provides an overview of the Maryland Life Sustaining Procedures Act and Durable Power of Attorney Act and describes their advantages and limitations.

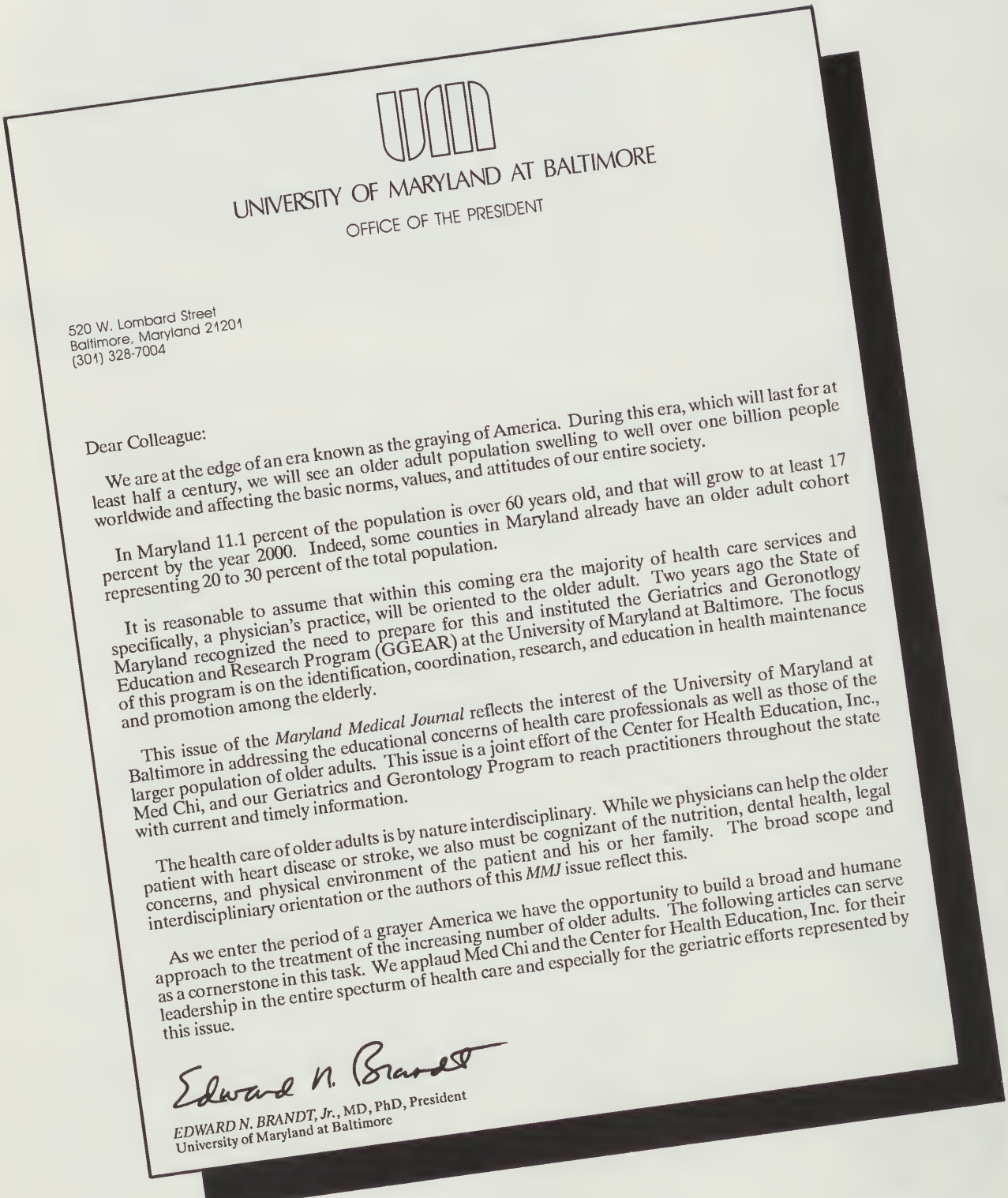
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These articles may not necessarily reflect the opinions of the Center for Health Education, Inc., the Geriatric and Gerontology Education and Research Program (GGEAR) of the University of Maryland at Baltimor, or Med Chi's Long-term Care and Geriatrics Committee.



UNIVERSITY OF MARYLAND AT BALTIMORE

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Dear Colleague:

We are at the edge of an era known as the graying of America. During this era, which will last for at least half a century, we will see an older adult population swelling to well over one billion people worldwide and affecting the basic norms, values, and attitudes of our entire society.

In Maryland 11.1 percent of the population is over 60 years old, and that will grow to at least 17 percent by the year 2000. Indeed, some counties in Maryland already have an older adult cohort representing 20 to 30 percent of the total population.

It is reasonable to assume that within this coming era the majority of health care services and specifically, a physician's practice, will be oriented to the older adult. Two years ago the State of Maryland recognized the need to prepare for this and instituted the Geriatrics and Geronotlogy Education and Research Program (GGEAR) at the University of Maryland at Baltimore. The focus of this program is on the identification, coordination, research, and education in health maintenance and promotion among the elderly.

This issue of the *Maryland Medical Journal* reflects the interest of the University of Maryland at Baltimore in addressing the educational concerns of health care professionals as well as those of the larger population of older adults. This issue is a joint effort of the Center for Health Education, Inc., Med Chi, and our Geriatrics and Gerontology Program to reach practitioners throughout the state with current and timely information.

The health care of older adults is by nature interdisciplinary. While we physicians can help the older patient with heart disease or stroke, we also must be cognizant of the nutrition, dental health, legal concerns, and physical environment of the patient and his or her family. The broad scope and interdiscipliniary orientation or the authors of this *MMJ* issue reflect this.

As we enter the period of a grayer America we have the opportunity to build a broad and humane approach to the treatment of the increasing number of older adults. The following articles can serve as a cornerstone in this task. We applaud Med Chi and the Center for Health Education, Inc. for their leadership in the entire specturm of health care and especially for the geriatric efforts represented by this issue.

Edward N. Brandt

EDWARD N. BRANDT, Jr., MD, PhD, President
University of Maryland at Baltimore

Demographic and Epidemiologic Considerations for Developing Preventive Strategies in the Elderly

JAY MAGAZINER PhD

More than 29 million Americans are aged 65 and older, over 12 percent of the US population. This number is expected to increase to 35 million by the turn of the century and to 67 million by the year 2050. Growth is expected to be greatest among the oldest and most disabled members of this group, those aged 85 and older. Persons 65 and older are the largest consumers of medical care; their care needs will be even greater as we enter and move through the twenty first century. Most persons needing long-term care will reside in the community, not in nursing homes. In light of these projections, we must be concerned with community based prevention at all levels.

Older adults, the largest consumers of medical care, are certain to be even larger users in the years ahead. As a result, one of the most important challenges facing the medical community today is how best to serve this rapidly growing segment of the population. To meet this challenge it will be necessary not only to train and retrain health professionals from a wide variety of disciplines but also to determine, well in advance, the health care needs of those who will become old at the turn of the century and beyond. Preventive strategies to reduce illness onset and resulting disability and to assure that the most appropriate care is delivered in the most efficient manner will be required. Planning is based on information about the composition and growth of future cohorts of older adults as well as knowledge of their health and health care needs in the years ahead.

Assumptions

Demographic projections require analysis of the past and present as well as assumptions about the future. Accordingly, we will assume that no major life extension efforts will be realized in the next 50 years, that the prevalence of chronic illness and resulting disability in those who become old over the next half century will not change dramatically, and that disease onset will not shift substantially to older ages. While the last two assumptions are the topic of considerable debate,[1,2] the likelihood that these assumptions will be violated by the middle of the next century is small. While we may witness shifts among which diseases are most prevalent as a result of today's preventive efforts, our projections are based on the assumption that total disease and disability will not decline in the years ahead.

When Does Aging Begin?

It is generally agreed that the aging process begins at birth, continues until one dies, varying in rate by individual and physiological system.[3] The biological passing of time since birth (chronological age) is not a particularly accurate indicator of aging or when old age begins; it is objective and, consequently, an index that is heavily relied on. A more appropriate indicator might include aspects of functioning, though we are not yet able to agree on appropriate functional indicators of aging or the level of dysfunction that determines when old age begins. Most gerontologists acknowledge this difficulty and proceed by using age 65, give or take a few years, as the arbitrary beginning of "old age." By doing this we are actually relying on another concept of aging, one driven more by social, psychological, and public policy concerns than by biological processes. Events such as widowhood, government policies surrounding retirement, and receipt of social security and Medicare probably do more to influence our view of when old age begins than do physiological changes or health status. Clearly, social and historical circumstances shape our perception of when old age begins. [4] Acknowledging this, for statistical reasons we must rely on age 65 as the beginning of old age. However, it is important to point out that those aged 65 years and over are not a homogeneous group.

Historical changes in life expectancy have had a large influence on bringing this lack of homogeneity into focus. A person born in 1900 could expect to live 47.3 years; one born in 1985 could expect to live 74.7 years. Men reaching age 65 today can expect to live until age 79, women until age 83. With these dramatic changes, two groups of aged were identified in the early 1970s: a *young-old* (65 to 74 years) group who were recently retired, in good health, of reasonable means, and with a great deal of leisure time; and an *old-old* (75 + years) group who fit our stereotypic image of the older person whose health was declining and whose resources diminishing.[5] More recently, yet another group of elders have been identified. Referred to as the *oldest-old*, this group of individuals 85 years and older are the subgroup of aged in poorest health and greatest need of health and long-term care. [6] Hence, the stereotypic old person is now even older, and the focus of much medical and public policy attention has shifted to this growing segment of the population. The heterogeneity among those 65 years and older becomes even more clear when

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we consider three subgroups among them: 65 to 74, 75 to 84, 85 and older.

Demographic Trends

The 29.1 million Americans in 1986 represented 12 percent of the US population; those 65 to 74 represented 7 percent, those 75 to 84 represented 4 percent, and those 85 and older represented 1 percent. The numbers and proportions have not always been this way, nor will they remain this way as we move through the next century. In 1900, there were only slightly more than 3 million Americans 65 years and older, representing only 4 percent of the US population at that time. By the year 2050, 67.4 million, or 21.8 percent of the population will be in this group. The growth in the number and proportion of persons aged 85 and older is even more pronounced. In 1900, there were only 123,000 or 0.2 percent aged 85 and older. By the year 2050, this group will number 16 million and represent 5 percent of the US population. This 473 percent increase in the oldest-old (85+) from 1986 to 2050 contrasts with increases of 74 percent in those 65 to 74 and 135 percent in those 75 to 84.[7] This demographic shift, (the result of an increased life expectancy and decreased birth rate) will have a significant impact on the population's health and on the way health care is delivered in the years ahead.

Health and Functioning

While varying among individuals, aging is accompanied by declines in acute conditions, increases in chronic conditions, and increases in resulting disability from both acute and chronic conditions. Tables 1 and 2 show these trends in summary form using data from the recently completed National Health Interview Survey.[8] Table 1 shows declines in acute conditions from age 5 on. Also noted are marked increases in disability resulting from these conditions in the form of restricted activity and bed disability days from ages 45 to 64 to 65+. Table 2 shows age-related changes in prevalence and resulting disability for the 10 leading chronic conditions among persons aged 65 and older. Here, age-related increases in the prevalence of all chronic conditions (except sinusitis) are noted, as are increases in resulting disability from 45 to 64 to 65+. While not among the 10 leading chronic conditions, significant cognitive deficits are experienced by an estimated 4.9 percent of those 65 and older residing in the community.[9] This increases markedly with advancing age, going from 2.9 percent in the 65 to 74 year age group to 15.8 percent in the 85 and older group. Furthermore, the rate of major depression and affective disorders is estimated to be 3.2 percent in those 65 and older,[9] while approximately 15 percent of

Table 1. Number of Acute Conditions and Restricted Activity Days and Bed Disability Days from Acute Conditions per 100 Persons per Year by Age, United States, 1985.

	All Ages	Under 5	5-17	18-24	25-44	45-64	65+
All acute conditions	175.3	334 6	236.9	179.9	162.7	112.9	98.4
Restricted activity days from acute conditions	687.4	747.8	653.2	675.4	645.0	604.7	964.8
Bed disability days from acute conditions	302.5	346.9	325.2	262.1	280.6	269.6	389.2

SOURCE: US Dept. of Health and Human Services. Current Estimates from the National Health Interview Survey, United States, 1985. Series 10, No. 160, September 1986.

Table 2. Number of Leading Chronic Conditions per 1000 Persons and Percent with Activity Limitations Due to Chronic Disease by Age, United States, 1985.

	All Ages	Under 18	18-44	45-64	65+
Chronic Condition (per 1,000)					
Arthritis	28.6	2.2	52.1	268.5	472.8
Hypertension	125.1	2.3	64.1	258.9	414.5
Hearing impairment	90.7	19.2	49.8	159.0	294.4
Heart condition	82.6	21.2	40.1	129.0	304.5
Orthopedic impairment	112.6	33.2	125.3	160.6	170.8
Sinusitis	139.0	59.6	164.4	184.8	154.5
Cataracts	25.0	2.1	1.8	24.4	164.0
Diabetes	26.2	1.9	9.1	51.9	103.8
Visual impairment	36.4	10.8	32.8	43.7	96.5
Tinnitus	26.1	.7	15.0	49.8	91.7
Activity Limitation (%)					
None	86.0	94.9	91.6	76.6	60.4
Limitation in major activity	9.5	3.7	5.7	17.5	24.1
Unable to carry on major activity	3.9	.5	2.1	8.7	10.4

SOURCE: US Dept. of Health and Human Services. Current Estimates from the National Health Interview Survey, United States, 1985. Series 10, No. 160, September 1986.

community dwelling persons aged 65 and older experience significant symptoms of depression.[10] The three leading causes of death for all those over 65 are heart disease, cancer, and cerebrovascular diseases.[7] Each year in the United States, three out of four persons 65 and older die of one of these diseases. With increasing age, the death rate from each disease also increases.

One way to evaluate health trends is to consider historical and projected patterns of mortality and life expectancy. General patterns of declining death rates are observed for all those 65 and older between 1950 and 1985.[10] During this period, marked declines are noted in heart disease and stroke. These are offset somewhat by increases in cancer deaths.[11] Heart disease accounted for 42.8 percent of all deaths in 1984 while cancer accounted for only 20 percent. Thus, even if cancer were eliminated, the average life span would be increased by only two years because of the prevalence of heart disease. If, however, heart disease were eliminated, an average of five years would be added to life expectancy at age 65, which would lead to dramatic increases in the number of older persons in the population .[7]

Table 3 shows historical trends in life expectancy for men and women at birth and age 65. Here, it can be seen that the life expectancy at birth, which has increased for men and women from 1900 to the present, will continue to increase over the next half century though at a somewhat slower rate. Increases in number of surviving years for those who reach age 65 are also expected through the middle of the next century. Although a subject of considerable discussion, [12] past trends suggest a projection in which women will continue to outlive men.

Table 3. Life Expectancy at Birth and Age 65 by Gender, United States, 1900 - 2050.

Year	At Birth		At Age 65	
	Male	Female	Male	Female
1900	46.3	48.3	11.5	12.2
1950	65.6	71.1	12.8	15.0
1960	66.6	73.1	12.8	15.8
1970	67.7	74.8	13.1	17.0
1980	70.0	77.4	14.1	18.3
1985	71.2	78.2	14.6	18.6
1990	71.6	79.2	15.0	19.5
2000	72.9	80.5	15.7	20.5
2010	73.8	81.5	16.1	21.2
2020	74.2	82.0	16.5	21.7
2030	74.6	82.5	16.8	22.1
2040	75.0	83.1	17.1	22.6
2050	75.5	83.6	17.4	23.1

SOURCES: National Center for Health Statistics, Health, United States, 1986. DHHS Pub. No. (PHS)87-1232 Washington: Department of Health and Human Services. December 1986.
Spencer, Gregory, U.S. Bureau of the Census. Projections of the population of the United States, by age, sex, and race: 1983 to 2080. Current Population Reports Series P-25, No. 952 (May 1984).
Adapted from: Aging America: Trends and Projections, 1987-88 edition.

The Long-Term Care Population: How Many and Where Do They Live?

Long-term care is a widely used expression about which there is little agreement. Traditionally, long-term care referred to institutional care and the long-term care population to those residing in these institutions. This is a rather restrictive view of long-term care since the factors influencing the use of institutions (including health and functioning) are much greater and also include social and economic factors.[13] For our purposes, the long-term care population is defined broadly to include all those so functionally disabled that they require assistance in personal care (such as dressing, bathing, eating) and/or instrumental care for community living (such as telephoning, housekeeping, shopping) for a long or indefinite period of time. It is difficult to estimate the number of aged persons needing long-term care. Using a criterion of requiring assistance in two or more physical activities of daily living, it is estimated that 9.3 percent of those 65 to 74, 16.5 percent of those 75 to 84, and 36.1 percent of those 85 and older are in need of long-term care and thus, comprise the long-term care population. The distributions of persons 65 and older by the number of physical and instrumental tasks on which assistance is needed and age are shown in Table 4. As expected, the proportion with no difficulties in physical activities of daily living (PADL) and instrumental activities of daily living (IADL) tasks decreases with advancing age, while the proportion requiring assistance in four or more tasks increases with advancing age. Using the estimates based on requiring assistance in two or more physical activities, one million persons 85 and older required long-term care in 1986. Given increases anticipated in this oldest-old segment of the population in the years ahead, an estimated 1.8 million persons will require assistance at the turn of the century, and 5.8 million will require such care by 2050. Using this definition, 12.1 million Americans 65 and older will require long-term care in 2050.

In considering the care needs of these individuals, it is important to recognize that most do not reside in institutions at present and are not likely to in the future. In fact, it is estimated that between 70 and 80 percent of those needing long-term care reside in the community.[14] Those requiring long-term care in the community are expected to increase considerably over the next 50 years.

Table 4. Proportion of Persons 65 Years of Age and Older by Number of Physical and Instrumental-Activities of Daily Living that are Difficult and Age, United States, 1984.

	65 and older	65-74	75-84	85+
Physical activities that are difficult [1]				
Total	100.0	100.0	100.0	100.0
None	77.3	82.9	72.2	51.2
1	9.2	7.8	11.2	12.8
2	4.7	3.7	5.4	10.2
3	2.8	1.9	3.7	6.7
4-7	5.9	3.7	7.4	19.2
Instrumental activities that are difficult [2]				
Total	100.0	100.0	100.0	100.0
None	73.1	79.5	67.0	44.8
1	14.3	13.0	16.6	15.2
2	4.3	2.9	5.8	9.3
3	2.4	1.5	3.2	6.6
4-6	6.0	3.2	7.5	24.2

SOURCE: Dawson D, Hendershot G, Fulton J. Aging in the eighties: Functional
Advance Data No. 133, National Center for Health Statistics (June 10, 1987).
Adapted from: Aging America: Trends and Projections, 1987-88 ed.

1. Includes bathing, dressing, eating, getting in and out of bed or chairs, walking, going outside, using the toilet.

2. Includes preparing meals, shopping for personal items, managing money, using the telephone, doing light housework, doing heavy housework.

Health Care Utilization

With greater populations of older persons having chronic conditions and requiring long-term care, the elderly, as a group, are and will continue to be the largest consumers of health care. On average, those 65 and older visit a physician eight times a year compared to five visits per year by the general population.[8] They are hospitalized more than twice as often as younger persons, and they represent 88 percent of all nursing home residents.[7,15]

Hospital use can be evaluated in terms of hospital discharges and the average lengths of stay per admission. The general pattern over the past 20 years has been an increase in discharge rates and a decline in average length of stay. In 1985, there were an estimated 10.5 million hospital discharges in the United States for those 65 years and older, more than twice the number (4.6 million) in 1965.[7] In addition, the discharge rate per 1,000 persons 65 years and older increased from 249.3 to 368.3 during that 20 year period. The early 1980s saw a downward shift in this trend: between 1983 and 1985, there was a 10.7 percent decline in discharge rates, most likely the result of DRG= based reimbursement and associated increases in the use of out-patient surgical procedures. The average length of hospital stay declined steadily from 1968 to 1985, from a high of 14.2 days per stay in 1968 to 8.7 days per stay in 1985. Discharge rates for those 85 and older are twice that of those 65 to 74 (563.6/1,000 vs. 294.9/1,000) and the average length of stay is 17 percent longer (9.6 days vs. 8.2 days).

In 1986, the National Center for Health Statistics estimated there were 249.8 million office visits by non-institutionalized individuals 65 years and older in the United States, accounting for 19.6 percent of all office visits in this country. Use of physician services also increases by age among those 65 and older. In 1986, persons of all ages averaged 5.4 visits per year, while those 65 and older averaged 9.1 visits per year. As with hospital use, the older members of this group used more physician services (8.1 visits per year for those 65 to 74 vs. 10.6 visits for those 75 and older).

The number of persons 65 and older in nursing homes in 1985 totaled 1.3 million, more than twice the number in 1963 (0.45 million) but only slightly more than the number in 1977 (1.1 million).[15,16] Given the changing demography of the population and the rise in the number of oldest-old, we can expect dramatic increases in the numbers needing nursing homes in the next 50 years. While the numbers of individuals using nursing homes has increased and the need will continue to increase markedly over the next 50 years, at present only 4.5 percent of those 65 and older reside in long-term care institutions.[15] This is a critical figure as it indicates that the vast majority of older Americans reside in the community. The proportion institutionalized has remained essentially unchanged since 1977 when 4.8 percent of those 65 and older were institutionalized and since 1974 when 4.5 percent of those 65 and older were institutionalized.[16] Given that the proportion of elderly 85 and older is increasing and that this group is the largest user of nursing home care, this 4.5 percent figure is likely to change over the next 50 years. Whether it grows or shrinks relative to demographic expectation will depend on social and public policy issues, not biological capacity.

Use of other health care by those aged 65 and older varies by service; with few exceptions, the elderly use more of each service than do younger groups. For example, the elderly have made less use of dental services but significantly more use of prescription medications and assistive devices such as canes, walkers, eyeglasses, and hearing aids.

Health Care Expenditures

Those 65 years and older currently account for one third of this country's total personal health expenditures (total health care costs from all sources). Of the total ($4,200 in 1984), one third represented payments to providers or insurers. The total health care expenditure for all elderly in 1984 was $120 billion. On a per capita basis, most personal health care expenditures go to hospital costs, followed by physician and nursing home costs.[7] Private insurance pays hospital and physician costs while out-of-pocket funds pay for nursing home, physician, and other types of care. Medicare funds are used primarily to cover hospital expenses, while Medicaid funds are used primarily to cover nursing home costs.

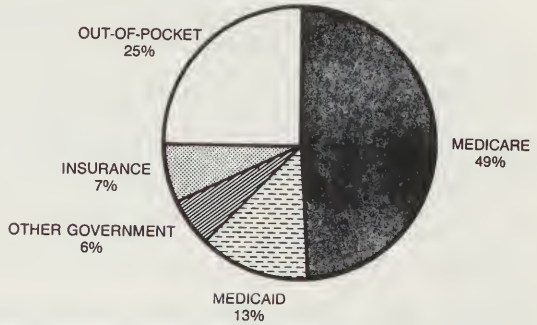
The Figure shows the distribution of personal health care expenditures by source of payment. In 1984, Medicare covered 40 percent of personal health care expenditures for those 65 and older. These funds were distributed to hospitals (69 percent), physicians (29 percent), nursing homes (1 percent) and to other providers (5 percent). Medicaid funds, which accounted for 13 percent of personal health care expenditures, went primarily to nursing homes (68 percent). Hospitals received 15 percent of Medicaid funds, physicians received 2 percent, and other health care providers received 15 percent of these public funds. Twenty-five percent of health care expenses were paid from out-of-pocket funds. These went primarily to cover nursing home costs (42 percent), followed by physicians (21 percent) and hospitals (6 percent). Thirty-one percent of out-of-pocket funds went to all other forms of care.

These figures indicate that public funds going to other forms of care, such as medications, home nursing, and an array of other community services are quite limited; this category of care is paid for primarily by out-of-pocket dollars. Assuming that major shifts in public funding do not occur, the growing amount of community based long-term care we anticipate needing in the future will have to be financed through private funds. Experiments with various forms of long-term care insurance are under way, but it is too early to know how effective they will be in paying for long-term care services for the vast majority of older persons needing this care. While future trends in financing cannot be predicted, without major changes in government financing for health and long-term care, it is not likely that the increased burden will be financed through public funds.

Implications for Prevention

Demographic and epidemiologic descriptions provide evidence about the needs for preventive efforts.

PERSONAL HEALTH CARE EXPENDITURES FOR THE ELDERLY BY SOURCE OF PAYMENT: 1984



SOURCE: Waldo, Daniel R. and Helen C. Lazenby. "Demographic Characteristics and Health Care Use and Expenditures by the Aged in the United States: 1977-1984." Health Care Financing Review Vo. 6, No. 1 (Fall 1984).

FROM: Aging America: Trends and Projections, 1987-88 edition.

Projections clearly indicate the need to provide medical care for increasing numbers of older persons in the years ahead. With increases in the numbers of oldest-old persons, we will also find that increasingly larger numbers will require long-term care. If our projections are correct, most of those needing of long-term care will reside in the community, not the nursing home. Hence, it is here that we must focus greater planning efforts. Since public funds are most readily available for institutional forms of long-term care, alternative funding strategies need to be developed for providing this care for those in the community. While not a biomedical intervention, this represents a major challenge to the provision of health care to the aged in the future.

We have challenges at all levels of prevention. We need to expend considerable effort on tertiary prevention in the areas of disability reduction and rehabilitation because significant numbers of older persons experience chronic conditions and resulting disability. Given that most older persons in need of this care will live in the community, we need to give considerable attention to how such care can be provided in noninstitutional environments. Secondary preventive efforts in the form of screening programs need to be developed further and used more widely. Again, since most older persons reside in the community these preventive services should be delivered there as well. To prevent disease and disability in late life, we must not limit preventive efforts to those who are presently 65 and older. Primary prevention should target all age groups. Many preventive efforts directed at those of school age or in their young adult years will have their greatest payoffs in terms of a healthier older population by the middle of the next century. As medical professionals, it is our obligation to assure that effective health care becomes more readily available for all. Our challenge in

preparing for the future is to begin implementing preventive efforts now.

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Health Promotion and Disease Prevention in the Care of Older Adults: Preventive Practice in Primary Care

LINDA P. FRIED MD, MPH

Prevention is an important and appropriate component of the primary care of older adults. Office-based approaches to prevention include routinely scheduled examinations for health maintenance and case finding for early disease and disability during visits scheduled for other purposes. The primary care clinician is the optimal person for effective preventive intervention in patients 65 years and older. The spectrum of preventive activities ranges from screening by history taking, physical examination, and laboratory tests to intervention by counseling and therapeutic intervention. Unfortunately, substantial barriers exist to widespread incorporation of preventive practices into primary care, including the need for information and the low level of third-party reimbursement in this area.

The large burden of illness for older people is due to chronic disease and to its acute complications, functional sequellae, and associated health care needs. The demographics of an increasingly larger older population demand an increasing practice of preventive measures to diminish this burden for both individuals and for society. Such prevention must be aimed not only at preventing the onset of new disease but also at minimizing the impact of disease already present by preventing unnecessary morbidity and disability, enhancing quality of life as much as possible. Such a broad role for prevention parallels the wide spectrum of health concerns in this older age group. Preventive health care in persons 65 years and older incorporates all three types of prevention: primary (prevention of the onset of disease), secondary (screening to detect early disease, and intervention to arrest the progress), and tertiary prevention (measures to minimize the effects of disease on the level of independence and activity). [1]

The minimal components of recommended preventive health care practice for older adults are a combination of the recommendations for the Periodic Health Examination for persons 65 years and older and the screening recommended clinically as optimal geriatric care.

This combined package, supported by clinical experience, will be tested among patients in eastern Baltimore over the next two years as part of the national Demonstration and Evaluation of the impact of reimbursing for preventive health services for medicare beneficiaries, funded by the Health Care Financing Administration. This randomized, controlled trial will test the feasibility of offering Medicare reimbursement for physician provision of preventive health care services to older Americans. It will also test whether such services lead to appropriate changes in health habits and earlier diagnosis of conditions benefiting from early treatment. The ultimate question of the cost effectiveness of such services and their impact on long term health outcomes, functioning, and health care costs for older persons remains to be assessed in future trials.

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Approaches to Prevention

The office setting offers two major types of opportunities for the practice of preventive care:

1. Periodic health exam, which involves screening on a pre-defined periodic basis for risk factors for the development of disease and identifying asymptomatic disease for which early treatment significantly improves outcome and
2. Case finding, defined as screening for problems responsive to preventive health care, done at an office visit scheduled for other illness, as well as the follow-up of such findings.

For example, cost-effective screening for persons 65 and older includes early identification and treatment of diastolic hypertension for prevention of stroke.[2] An example of effective primary prevention is influenza immunization in this age group. Case-finding strategies include early identification of geriatric conditions such as periodontal disease, urinary incontinence, falls, and hearing and visual impairment; these conditions carry a high morbidity, are generally underdiagnosed, but often are amenable to intervention.

Combined with the practitioner's longitudinal knowledge of the individual patient, these approaches provide unique opportunities in the primary care setting for developing preventive interventions tailored to the individual. In addition, given that older persons are known to turn to their primary care provider preferentially for medical and mental health care, [3] counseling (whether regarding mental health, major life changes, or regarding health habits and risks) is likely to be best received from that same provider.

The approach to prevention in the primary care of the older person varies, as in the younger, by the patient's characteristics. Preventive health care recommendations for the "young-old" (65 to 74 years) and the "old-old" vary to some extent, particularly in an increased focus on tertiary prevention of loss of functional autonomy with increasing age. Setting also influences risk assessment: environmental hazards place a vulnerable individual at higher risk of falls, and institutionalization increases the risk of both tuberculosis and influenza.[4] In addition, base-line health status changes risk: persons on multiple medications are at increased risk of drug interactions and some side effects compared with those on no medications.[5] Persons with multiple chronic diseases appear to be at increased risk of malnutrition compared to those without clinical disease.[6] Persons with specific diseases such as dementia or stroke and those dependent in their daily functioning are at increased risk of institutionalization.[7] These examples indicate risk characteristics that need evaluation in a preventive health care screening for older persons and stress that the spectrum of risk factors is broader for them than for younger groups.

Components of Prevention: Primary Care Setting

Periodic Health Examination Current recommendations for periodic health maintenance in the office setting are a result of reports from four different groups over the last 15 years[8-13] that have been summarized and discussed by the American College of Physicians; the latter report reviewed the specific screening intervals recommended.[14] In general, the areas currently recommended for routine primary prevention are:

Patient education for accident prevention; seat belt use; techniques for self-examination of the skin, oral cavity, breast, and testes; and to report post-menopausal bleeding.

Health habit promotion including counseling for smoking cessation, nutrition, weight loss, regular exercise, daily oral hygiene, proper medication use, and sleep.

Primary disease prevention including immunization for influenza (annually), pneumococcus (one time only), and tetanus booster (every ten years), cholesterol screening for risk of coronary heart disease, and techniques for prevention of periodontal disease and dental caries.

Secondary and tertiary prevention encompassing screening for early disease, such as for hearing impairment; hypertension; hypothyroidism; cancers of the breast, cervix, colon and rectum, oropharynx, and skin. Screening also is recommended in persons 65 and older for malnutrition and for functional impairment, and in persons at high risk, for tuberculosis and for cancer of the bladder.

Case Finding For geriatric conditions amenable to prevention, it is important to screen (during visits for other reasons) for evidence of cognitive decline or disorientation; functional decline or dependency; depression; drug side effects, overdosage, or interactions; environmental risks; falls or fall risk; unnecessary immobilization; incontinence; podiatric problems; and visual impairment. Early identification of these problems will aid in the prevention of unnecessary morbidity and/or disability.

Barriers to Prevention in Older Persons

In the past, a major obstacle to practicing preventive health care with older persons was the impression that it was not useful for this age group. With increasing recognition that appropriate preventive care is not only relevant but also necessary,[7] the major obstacles are in other areas. These barriers are, first, scientific. Not enough work has been done to define and evaluate the most cost-effective preventive strategies appropriate to the 65 years and older age group. Second, both patients and practitioners need to be educated as to the currently recommended strategies for prevention and their potential for maintaining or improving health status, functioning, and the quality of life. Increased emphasis on secondary and tertiary prevention, outlined above, is appropriate to these health objectives. Past focus only on primary prevention limits the potential benefit for preventive care in older age groups.

> *Patients, as well as practitioners, must understand the distinction between normal aging and pathology, and that the latter is not an inevitable consequence of the former.*

Finally, a significant obstacle is the lack of third-party reimbursement for most preventive health care. Medicare, in effect, does not include preventive care as a benefit and thus is a major inhibitor of the ability of practitioners to provide such care. We hope the current demonstration and evaluation program in progress in Baltimore will provide data supportive of changing this reimbursement policy.

In summary, there is an important and expanding role for the primary care practitioner in the provision of effective preventive health care for older adults. While many potential areas for prevention remain to be tested, there is a clear mandate for incorporating currently recommended prevention strategies into clinical care for patients 65 years old and older.

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Nutrition

ELIZABETH L. ROGERS MD

Although we are on a steep learning curve as far as the exact relationship between nutrition and disease prevention is concerned, evidence is accumulating on the role of body mass index and mortality, protein deficiency and decreased ability to fight infection, effect of fiber intake on cholesterol and glucose metabolism, hyperlipidemia and atherosclerosis, and inadequate calcium intake in osteoporosis.

Screening for nutritional disorders includes identifying those with risk factors of being female, black, poor, or institutionalized. Evidence of weight change, dietary idiosyncracies, nutrient deficiency, and laboratory tests can be helpful. Treatment should be tailored to the individual and be specific for suspected deficiencies. Attention to calories, protein, and calcium are paramount.

The elderly differ from young adults in body composition, eating habits, biochemical makeup, socioeconomic approach to life, and ability to tolerate change or stress. Moderation and attention to the practicality of suggestions is important in giving nutritional advice to the elderly.

Social isolation, transportation difficulties, loss of dentition, arthritis, mobility problems, visual impairments, altered taste, and neurologic disorders result in dietary inadequacy. The high frequency of medical and psychologic disease processes also decrease appetite, alters gastrointestinal motility and absorption, and may change metabolism.

Role of Nutrition in Disease Prevention

Concern about weight is a major issue with the elderly. Media advertisements and discussions promote the thin and trim. While graded exercise can be associated with improvement in oxygen delivery and with loss of fat stores, there are no data that weight loss in nonobese, nondiabetic, and nonhyperlipidemic elderly extends human life. This is in contradistinction to rodent studies that have shown delayed maturation and delayed senescence with calorie protein restriction that does not result in malnutrition. Rather than reinforcing the need for weight reduction in the nonobese elderly, modern data suggests very thin people have a reduced life span. Improved longevity is found in those elderly who are 10 to 25 percent greater in weight than previously thought "ideal body weight" standards.[1]

As people age, they tend to consume fewer calories. A major effect of reduced calories is that intakes of many nutrients are liable to be consumed in smaller amounts. Yet, the elderly may require **more** protein per kilogram of body weight than do younger people to avoid a negative nitrogen balance.[2] It is not surprising that decrease in serum albumin, lean body mass, and total body protein is seen with aging. Protein deficiency is associated with decreased immune function ability to fight infections and decreased ability to mount appropriate neurohumoral responses to stress. Whereas infection with tuberculosis or histoplasmosis is more common in the malnourished elderly, survivors in longitudinal studies have been shown to be those ingesting fairly high quantities of protein throughout their life.

Increased fiber intake has been associated with decrease of constipation. In hyperlipidemics, increased fiber may lead to decreased cholesterol, while in diabetics one sees better glucose tolerance. Fiber has been associated with binding of potentially carcinogenic toxins.

Coronary heart disease death rates and peripheral vascular occlusive disease are higher in hyperlipidemic persons of all ages. Efforts should be continued to reduce elevated low density lipoproteins and to raise the protective high density lipoproteins by reducing saturated fats and substituting for them polyunsaturated fats.

Of recurring concern in the elderly are problems with water and electrolytes. Impaired thirst response, decreased ability of the kidney function and a decreased response to antidiuretic hormone all predispose the elderly to dehydration. If access to water is limited due to impaired mobility, confusion, drugs, or illness, dehydration quickly occurs. Hyponatremia and/or hypokalemia, associated with diuretics or prescribed diets, are also frequent problems.

Osteoporosis is a major cause of fractures, immobility, and death in the elderly. Risk of osteoporosis can be decreased by adequate calcium intake in middle life and continued adequate calcium intake with exercise by the elderly.[3] Other risk factors for osteoporosis include older age, female sex, lower than ideal weight, immobility, lack of exercise, lack of sunlight and vitamin D exposure, cigarette smoking, coffee drinking, a high phosphate/calcium ratio, and use of drugs such as corticosteroids, isoniazid, and aluminum-containing antacids.

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Iron deficiency, on the other hand, is rarely due to poor nutrient intake in the elderly. Iron deficiency anemia should not be considered to be of dietary origin until gastrointestinal blood loss has been ruled out.[4]

Screening for Nutritional Disorders

British surveys find malnutrition in 5 percent of those aged 70 to 80 and 12 percent in those over 80. As many as 50 percent of the elderly consume less than 66 percent of the Recommended Dietary Allowances(RDA). The most common problem found is protein-calorie malnutrition with deficiencies also found in calories, calcium, vitamin A, and thiamine.[5] Dietary idiosyncracies may lead to avoidance of one or more of the basic four food groups: fruits/vegetables, protein, dairy, or grains/complex carbohydrates. Brief questioning about the basic four food groups therefore may be useful. Based on food records from healthy diet conscious, relatively affluent senior citizens in Albuquerque, NM, Garry found inadequate protein intake in 11 percent of men and 14 percent of women. Despite vitamin and mineral supplements in 60 percent of this population, adequate intake of calcium and Vitamin D did not occur in women.[6]

A recent history of institutionalization, change of social circumstance, weight loss, financial problems, or altered mobility should raise the question of dietary adequacy. Social isolation due to loss of spouse and friends, decreased access to food because of visual or neurologic problems, altered ability to taste and smell food, and altered ability to chew food because of inadequate dentition also place the elderly at risk for inadequate intake.[7]

Simple weight measurements are invaluable as a gauge of weight change over time. Anthropometrics confirm clinical suspicions, despite the problems of height changes with age, altered skin-fold thickness with poor skin turgor, alteration in distribution of fat, and alterations in skin thickness.

Clinical signs of nutrient deficiency in the elderly are uncommon, but in 10 percent of the elderly population one can find filiform papillary atrophy and tongue fissures (niacin deficiency), absent knee and ankle jerks (thiamin deficiency), bowed legs (vitamin D), follicular hyperkeratosis (Vitamin A deficiency), and bleeding or swollen gums (ascorbic acid deficiency).[8]

Hypoalbuminemia, anemia, and lymphocytopenia yield supportive evidence for the presence of significant protein calorie malnutrition, although these can be findings associated with aging alone.[9] Biochemical nutrient levels tend to decrease before clinical signs are present. However, the correlation between intake and biochemical levels and between levels and clinical significance leave many questions. Yet low serum levels of iron, folic acid, or cobalamin should not be ignored.[4,10,11]

Maintaining Nutritional Adequacy

One of the main goals in treating the elderly is to maintain the patient's interest in eating and to tailor suggestions to fit the likes, habits, and economic views of the patient. Patients should be encouraged to consume recommended servings of the basic four food groups to yield 1200 Kcal daily, with as wide a variety as possible. Treatment should be specific for the suspected deficiencies and aimed at the maintenance of optimal physiologic function and the prevention of age-dependent diseases and disorders.[12]

Vitamins and minerals should be supplied as necessary to supplement an inadequate intake. Megavitamins have not been shown to be helpful and may enhance problems such as osteoporosis.[13] Osteoporosis studies have demonstrated reduced loss of bone mass with exercise and adequate calcium intake (1500 to 2000 mg/day), especially if phosphate intake (found in processed foods) is kept low. Several studies have shown increased bone density over six months with augmented calcium intake.[14]

To correct recent weight loss, calories should be 150 percent of basal energy expenditure or 2000-3500 Kcal daily. This can be in the form of frequent meals with supplements of foods that the patient wishes after meals. Because liquid supplements added to the meals may end up being consumed instead of solid food, packaged supplements may add cost without increasing total caloric intake. The help of clinical dietitians can be invaluable in helping the elderly patient find a palatable, affordable adequate diet.

Enteral alimentation through a small polyethylene feeding tube should be considered for those with impaired swallowing, those with altered gastrointestinal motility, those undergoing surgery or acute illness, or those who are acutely anorectic secondary to weight loss.[15]

Parenteral nutrition most frequently is reserved for those elderly who require rapid correction of calories, proteins, fluid, and electrolytes associated with surgical procedures or those with severe self-limited impairment of gastrointestinal function.[16]

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Oral Health

LINDA C. NIESSEN DMD, MPH and GEORGE C. WILLIAMS DDS, MBA

The risk for the most serious oral disease, oral cancer, increases with age as does the prevalence of other oral soft tissue diseases. Tooth loss is not part of normal aging. As more elderly retain their natural dentition, they are at continued risk for tooth-related diseases such as caries and periodontal disease. Preventive dental programs, including an oral exam as part of the physical examination, will be indicated for adults.

At the recent Surgeon General's Workshop on Health Promotion and Aging, oral health was one of the nine working groups offering recommendations for health promotion and disease prevention activities.[1] We review changes in oral disease patterns among older adults and their implications for oral health promotion and disease prevention in this population.

Many generalizations exist about aging and the oral cavity, but longitudinal studies are contributing to the knowledge on age-related oral changes.[2] Expected tooth loss and decreased salivary flow are two examples of the myths surrounding oral health and age. It is now recognized that tooth loss is not a normal age change but the consequence of oral diseases such as caries or periodontal disease.[3] Similarly, recent work has shown that salivary flow in nonmedicated adults does not decrease with age.[4,5] What was thought to be age-associated was in effect a pharmacologic-induced decrease as a result of medications.

Table 1 lists types of medications that can cause xerostomia, characterized by symtoms of difficulty chewing, swallowing or speaking. Saliva has anti-bacterial properties, and persons without adequate salivary flow are at increased risk for developing caries and/or periodontal disease.

For patients with decreased salivary flow or with symptoms of dry mouth that do not appear to be medication related, appropriate referral for evaluation of primary salivary gland pathology is indicated. Saliva substitutes that reproduce the minerals found in saliva can alleviate the discomfort of oral dryness. They can be used ad libitum and are available at local pharmacies or dentists' offices.

Oral cancer is primarily a disease of older adults, and incidence rates increase with age.[6] The estimated incidence of oral cancer for men is 4 percent and 2 percent for women.[7] Mortality in the United States is high: less

Table 1. Medications that Cause Xerostomia

Antidepressants
Antihistamines
Antihypertensives
Antineoplastics
Antipsychotics
Antispasmodics
Decongestants
Diuretics
Tranquilizers

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than half the patients with oral cancer are cured. Most oral cancers are squamous cell carcinomas, and the tongue is the most common site. Use of tobacco and alcohol are risk factors associated with oral cancer.

Given the association of oral cancer with age, oral cancer may be a more frequent problem in the future. Elimination of risk factors and early diagnosis appear to be the most effective ways to improve morbidity and mortality associated with oral cancer. Physicians treating older adults will need to thoroughly evaluate the oral cavity during the physical examination.

The most striking change in the oral health status of older adults is the decline in edentulism in the past 20 years.[8] Table 2 shows the trends in edentulism: there are now more elders with than without teeth. A recent survey by the National Institute of Dental Research (NIDR) of employed adults and senior citizens found that only 4 percent of the employed population and 41 percent of seniors were edentulous.[9] The decline in edentulism is likely to continue as these employed adults age.

The downside of this good news in oral health status is that elders' natural dentition will continue to be at risk for dental caries and periodontal diseases. Dental caries can affect either the coronal portion of the tooth or, if the gingiva has receded to expose the tooth root, the root surface of the tooth. While coronal caries is not considered a problem in adults, recent epidemiologic surveys have shown that decay rates were higher in some adult age groups than in children.[6,10] Anecdotally, root caries is thought to be a greater problem in older adults. Several small studies have confirmed that certain elderly populations, such as nursing home residents, are at greater risk for root caries than community dwelling elders.[11,12]

Fluorides will play a continued role for adults in caries prevention efforts. Recent studies of caries in adults have shown that adults with lifelong residence in communities with fluoridated water have approximately 50 percent less caries than those living in nonfluoridated communities.[13] Self-applied fluorides as rinses or gels are indicated for those elders with high coronal or root caries rates.

Periodontal diseases includes gingivitis and periodontitis. Both are bacterially mediated. Gingivitis is an inflammation of the gingival tissue; periodontitis is an inflammation of the periodontium or supporting structures of the teeth. Gingivitis most often occurs in the presence of poor plaque control. In addition, medications such as phenytoin or nifedipine induce a gingival hyperplasia in the presence of plaque. Since use of these medications increases as patients age, persons taking these medications will need to be advised of potential adverse oral effects.

It is not clear that the severity of periodontal disease increases in older adults. Surveys in Iowa and North Carolina have shown that the prevalence of severe periodontal disease may range between 5 to 10 percent in older adults.[14,15] One hypothesis is that individuals lose periodontally diseased teeth before they reach age 65.

With caries and periodontal disease continuing to occur throughout one's lifetime, dental preventive efforts will be important for older adults. Brushing and flossing are valuable in the prevention of caries and periodontal diseases. Individuals with physical or mental disabilities that cause loss of neuromuscular or cognitive function (such as stroke, arthritis, or dementia) prohibiting daily oral hygiene may need assistance in toothbrushing. Severely impaired adults will be dependent on a caregiver to provide daily oral hygiene.

Little is known about the effect of the grinding of hard tissues on oral health.[6] The older one is, the more one's teeth have been exposed to factors that cause erosion or abrasion. Eighty years of chewing or brushing will wear away enamel, dentin, and cementum. However, the clinical significance of tooth erosion or abrasion is not known. Severely abraded teeth may be sensitive to cold. Occasionally the sensitivity can be decreased with the use of a desensitizing toothpaste or stannous fluoride gel. The use of a soft toothbrush can prevent some abrasion.

In patients wearing dentures, oral soft lesions and *Candida albicans* infections occur frequently. Oral soft tissue lesions can be denture related, tobacco induced (such as nicotinic stomatitis), or due to other causes (such as reactions to medications). Candidiasis can occur under dentures as denture stomatitis or at the corners of the mouth as angular cheilitis. Candidiasis under a denture often can be prevented by good denture hygiene. Removal of the denture and rinsing after eating and thorough cleaning of the denture at least once a day can prevent the accumulation of plaque in the denture. Antifungal agents including nystatin, mycelex troches, or ketaconizole are used to treat the candidiasis. If the patient wears a denture, the denture also must be cleaned with either sodium hypochlorite or nystatin.

Table 2. Americans Who Were Edentulous, by Age in 1957-1958, 1971, and 1983.

Age groups (in years)	1957-1958 (percent)	1971 (percent)	1983 (percent)
45-54	22.4	17.3	14.0
55-64	38.1	30.8	22.4
65-74	55.4	45.2	34.1
75 +	67.3	59.8	45.4

SOURCE: National Health Interview Survey, 1957-58, 19712,1983.[6]

Use of Dental Services

The elderlys' use of dental services is changing dramatically. From 1963-1964 to 1983, use of dental services by the elderly doubled.[8] In 1963-1964, approximately 20 percent of the elderly saw a dentist in a year; by 1983, this increased to 43 percent. Table 3 shows the percentage of the elderly visiting the dentist in a year by dentition status. These data show that approximately 60 percent of the elderly with teeth see a dentist in a year compared to 12 percent of the edentulous elderly, [8] suggesting it is very important for physicians treating older adults, particularly edentulous elders, to include an oral exam as part of the physical exam since the edentulous elder is unlikely to have recently visited a dentist.

For elders in a nursing home or those who are homebound, access to dental care will continue to be difficult. Dentists are beginning to affiliate with long-term care facilities as these facilities begin to recognize the oral health needs of their residents.

Table 3. Percent of Americans visiting Dentist within Last Year

Dental Visit Within Last Year Years	Edentulous (percent)	Dentate (percent)
35-44	17.8	61.9
45-54	15.7	61.3
55-64	13.7	62.5
65-74	11.8	59.5
75+	7.7	50.5

SOURCE: Ismail AI et al. JADA 1987;114:617-21.

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Sleep

PHILIP L. SMITH MD

Our understanding of the effect of aging on normal sleep and specific sleep disorders in the elderly has increased significantly in the last decade.[1-3] Sleep complaints and the use of sedative hypnotics in the elderly are now more frequent than in younger patients.[5] It is important in the management of elderly patients to determine whether a formal laboratory evaluation of a patient needs to be undertaken to diagnose a specific sleep disorder prior to initiating drug therapy for nonspecific complaints of difficulty with sleep.

With aging, the normal four to five cycles of alternating continuous non-REM and REM sleep is replaced in older individuals by delayed sleep onset, decreased slow wave sleep, multiple arousals, and shortened periods of REM sleep.[6] This fragmentation of sleep may be responsible for a feeling of nocturnal insomnia that may be associated with fatigue or sleepiness during the daytime. The relationship between the normally fragmented sleep associated with aging (perceived

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as insomnia) and the level of daytime alertness (sleepiness, lethargy) is unclear since many individuals with similarly fragmented sleep do not necessarily complain of difficulties during the daytime.

Insomnia and Hypersomnolence

In general, the screening for significant sleep disorders centers around two major complaints.[1] First, elderly patients may complain of insomnia, an inability to initiate or maintain sleep. Insomnia may be transient or episodic due to short-lived symptoms precipitated by specific events or more persistent insomnia that may be due to either normal aging or a worsening of a lifelong history of anxiety. Other causes of insomnia include sleep apnea or movement disorders that cause frequent complete awakenings from sleep.[7-9] A common complaint of elderly patients is insomnia due to chronic pain, dyspnea, or other symptoms associated with a major medical illness. Depression can be associated with insomnia but usually is characterized by normal sleep onset accompanied by early morning awakenings. Medications taken for various medical illness can markedly disrupt the sleep cycle. For example, antihypertensive and seizure medications tend to be sedating during the daytime, thus causing difficulty with initiating sleep at night. One of the most commonly abused medications in the elderly are sedative-hypnotics that induce rebound insomnia when the drug is removed after tolerance has developed from prolonged usage.

The second major complaint in the elderly with sleep disorders is hypersomnolence.[1] Sleepiness may be more difficult to detect since napping is commonly ignored in older individuals in whom the tendency to sleep is assumed to be normal concomitant of aging. In fact, any evidence of change in the normal sleep-wake pattern, as manifested by either a tendency to nap during sedentary periods or difficulties in remaining alert during normal activities, suggests that nocturnal sleep is being disrupted. Two of the most common causes of daytime hypersomnolence are obstructive sleep apnea or periodic leg movements that lead to recurrent arousals and fragmentation of sleep. Other conditions associated with daytime hypersomnolence are not necessarily due to disrupted sleep. For example, narcolepsy is a frequent cause of hypersomnolence in young to middle-age individuals, but it is a rare cause of sleepiness in the elderly population.[8] Certain types of chronic underlying medical illness such as hypothyroidism, hyperglycemia, and acute carbon dioxide retention may depress central nervous system function and result in daytime hypersomnolence. In general, the degree of hypersomnolence usually correlates with the underlying severity of the medical illness. Acute and chronic affective disorders, especially depression, also lead to alterations in sleep pattern and daytime hypersomnolence. Finally, sedating medications, in particular the antihypertensives, antiseizure, and psychotropic drugs, may lead to significant daytime hypersomnolence.

Sleep Screenings and Studies

It has been suggested that screening tests prior to overnight sleep studies (polysomnogram) might identify patients with certain types of sleep disorders.[10] However, there is no evidence that screening tests are either sensitive or specific. Therefore, the confirmation of a specific sleep disorder requires a full-night study of sleep. These studies generally are carried out within a specialized sleep laboratory and include extensive monitoring with electroencephalographic, electroculoographic, and electromyographic recording to properly stage sleep. Simultaneous recordings of respiratory effort, airflow, and oxygenation are performed to quantitate the pattern of breathing as well as to document the level of arterial oxygen saturation during the night. An anterior tibial electromyogram is placed to diagnose periodic movement disorders. An electrocardiographic recording is routinely conducted to note the type and possible associated arrhythmias in the relation to sleep state and/or respiratory abnormalities.

While polysomnograms have become common within the community, it is not necessary to study all patients with insomnia or hypersomnolence. A general approach to the evaluation of patients should be a careful history and physical exam to document significant alterations in the sleep-wake pattern. Elderly patients presenting with a complaint of insomnia do not require an immediate evaluation in the sleep laboratory unless sleep apnea or periodic leg movements are suspected. Insomnia due to psychophysiologic factors or underlying psychiatric illness will benefit from initial clinical management and, possibly, judicious use of sedative hypnotics prior to the laboratory study. Particular attention should be paid to determining whether other medical factors are contributing to the insomnia, especially undiagnosed depression. If symptoms persist, a formal sleep evaluation to document the severity of insomnia may be undertaken. Patients who have obvious clinical hypersomnolence due to an underlying medical condition, psychiatric illness, or medication do not need a sleep study initially. However, patients who are suspected of having sleep apnea, periodic movements, or narcolepsy will benefit from the polysomnogram that will document specific sleep disorders.

Summary

The treatment of insomnia or hypersomnolence is directed at the underlying etiology of the disorder. A short course of sedative hypnotic medications can be used in the treatment of transient insomnia until precipitating factors have resolved. Chronic insomnia will require a more experienced individual versed in the various behavioral techniques now being used. In general, therapy for sleep apnea and periodic leg movements is less tolerated in the elderly since the side effects of various treatment options are often as bothersome as the sleep disorder.

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Incontinence

JOSEPH OUSLANDER MD

Urinary incontinence, a prevalent and costly health problem that can have adverse effects on a patient's physical health and psychosocial status, often influences decisions for institutionalization.[1-3]

The financial cost of managing urinary incontinence has been estimated by the Surgeon General of the United States to be as high as $8 billion per year. With recent advances in the diagnosis and treatment of incontinence, this condition now can be cured or substantially ameliorated in the vast majority of patients. [4] Recent reviews have detailed current knowledge of the pathophysiology of urinary incontinence and have provided plans for diagnostic evaluation and treatment.[5-7]

Numerous anatomic and physiologic changes associated with aging, as well as pathologic conditions that become more prevalent with aging, can affect lower urinary tract function and continence.[8,9] In women normal aging is associated with a loss of estrogen effects on the tissues of the lower urinary tract, resulting in symptoms of atrophic vaginitis and urethritis and in weakening of the periurethral tissues. Normal aging in men is associated with enlargement of the prostate. In some cases, however, this enlargement may lead to the development of urinary retention with overflow incontinence and detrusor instability with irritative voiding symptoms.

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Types of Incontinence

Acute urinary incontinence begins suddenly and usually is related to an acute medical problem. Any patient who abruptly develops urinary incontinence should be evaluated for urinary retention with overflow incontinence, which may be caused by immobility, fecal impaction, or anticholinergic agents, narcotics, alpha- and beta-adrenergic agonists, and other drug side effects.

Although the relationships of bacteriuria and pyuria to the pathogenesis of urinary incontinence is unclear,[8] any acute inflammatory condition in the lower urinary tract causing frequency, urgency, or polyuria (for example, uncontrolled diabetes, venous insufficiency, or congestive heart failure) can precipitate incontinence.

There are five basic types of **persistent incontinence**: stress, urge, overflow, functional, and a combined

pathological condition called detrusor hyperreflexia with impaired contractility.

Stress incontinence This type of incontinence generally is described as the involuntary loss of small amounts of urine with increases in intra-abdominal pressure, such as occur in laughing, coughing, or exercising. Stress incontinence is far more common in women than men and often is seen in conjunction with detrusor instability and symptoms of urge incontinence.

Urge incontinence This form of incontinence is manifested by leakage of urine, usually in larger amounts, because of an inability to delay voiding after perceiving a sensation of bladder fullness. This incontinence also often is associated with detrusor motor instability or hyperreflexia.

Overflow incontinence Patients with significant urinary retention may develop overflow incontinence due to anatomic obstruction as opposed to an inability of bladder to contract. Obstructive voiding symptoms often are present, or the patient may experience frequent losses of small amounts of urine without warning. The most common causes of overflow incontinence in men are prostatic enlargement and urethral stricture. In some women, overflow incontinence can occur when a large prolapsed cystocele obstructs the urethra and retains urine.

Functional incontinence Urinary leakage happens because of a person's inability to get to a toilet in time as the result of either impaired physical or mental function. This type of incontinence is especially prevalent among institutionalized patients.

Detrusor hyperreflexia with impaired contractility (DHIC) Catagorized as a subtype of urge incontinence, DHIC recently was reported to be the most common urodynamic abnormality in a very elderly institutionalized incontinent population.[10] This condition is characterized by involuntary bladder contractions and incomplete emptying of the bladder in the absence of anatomic or neurogenic obstruction.

Diagnostic Evaluation

Hilton and Stanton[11] have developed an algorithm for the diagnosis and management of incontinence in elderly women based on results of a urine culture, history, and physical examination with emphasis on palpating the bladder after the patient has voided and on examining the patient standing with a full bladder for stress incontinence. The usefulness of this algorithm has been validated both retrospectively and prospectively.[11,12]

Ouslander and colleagues[13,14] have designed an algorithm for the diagnosis and management of incontinence in both men and women. This algorithm includes a history, focused physical examination, urinalysis with cultures, and a series of simplified "bedside" diagnostic tests that can be performed and interpreted without any special expertise in urodynamics.[13]

Treatment Options

Acute incontinence in acutely ill patients is likely to resolve with subsidence of the underlying illness. This type of urinary incontinence should be managed by scheduled toileting, toilet substitutes, and/or pads with careful attention to skin care.

Mild to moderate stress incontinence may be treated by means of pelvic floor (Kegel) exercises and use of appropriate drugs (for example, alpha-adrenergic agonists, which increase the tone of the smooth muscle around the bladder outlet, and estrogen, which has a trophic effect on the tissues around the bladder outlet and also may have effects of periurethral blood flow and alpha-adrenergic activity). Up to a third of women with stress incontinence also have detrusor motor instability.[10,15,16] Severe stress incontinence unresponsive to these treatments or associated with prominent anatomic abnormalities may be treated by means of surgical procedures involving suspension of the bladder neck.[17]

Urge incontinence is the most common type of incontinence in the elderly; it rarely is associated with a pathologic lesion in the lower urinary tract.[18,19] Women with urge incontinence and other irritative voiding symptoms may benefit from treatment with estrogen, especially if atrophic vaginitis and urethritis are present.

Overflow incontinence due to urinary retention is best treated with surgery for removal of the obstructing prostatic tissue, or in women, repair of a large cystocele. In several studies of male patients with incontinence and other voiding difficulties, over half the patients had both obstruction and detrusor motor instability.[20-22] In most cases, symptoms and detrusor instability resolved after prostatectomy.[23] Some incontinent men who undergo a transurethral resection for obstruction will continue to have symptoms of urge incontinence postoperatively due to persistence of detrusor motor instability. Although this problem usually resolves over time, patients with persistent symptoms may benefit from treatment with a bladder relaxant drug. Patients with acontractile neurogenic bladders generally require chronic indwelling or intermittent catheterization to prevent the complications of chronic urinary retention.

Functional incontinence is often accompanied by other problems, for example, detrusor motor instability or hyperreflexia. Treatment generally involves a be-

haviorally oriented toileting schedule with appropriate use of special undergarments, pads, and external collection devices, as well as environmental manipulations.

Detrusor hyperreflexia with impaired contractility (DHIC). Theoretically, patients with DHIC might respond better to bladder relaxants, but they may be at greater risk for the development of urinary retention from these drugs. The optimal approach to this previously unrecognized but apparently very common problem must be explored.

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Exercise

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If ever there were an antidote to the decline associated with aging, it might be physical exercise. Older people who exercise regularly tend to be those at whom we marvel: they live longer, more vigorous, independent lives. Exercise has provided them with keys to a better quality of life and cardiovascular fitness, strengthened muscles, a well-functioning nervous system, good mental health, and improved functional capacity.[1,2]

It's never too late to begin. Sedentary older individuals can improve their lives by embarking on a routine of regular exercise.[1] Primary care physicians are in an excellent position to act as counselors for good health by encouraging and instructing older patients to begin and continue exercising. However, it may not be easy to persuade older patients to be more active. Most probably have long-standing habits of inactivity, some physical disabilities, and perhaps fears of falling or having a heart attack while exercising. We suggest a brief approach to plan an individualized exercise program and effectively advise your patient. A checklist to guide and document your advice is provided (Figure 1).

Begin convincing your patient by using these steps:

1. Recommend increased activity Determine your patient's current activity level by inquiring about his or her usual type of activity, frequency, and duration.

From the Center for Health Education,Inc. Martin is a Health Education, Dr. Valente is the Executive Director, and Dr. Antlitz is Chairman of the Board of Directors.

Physicians are in a unique position to recommend more routine activity (such as walking to the store instead of riding), as well as planned exercise sessions for patients.

2. Emphasize the benefits (and defuse concerns) Explain why exercise is so important for physical and mental health. What does the patient perceive as possible benefits? Try to elaborate on those that seem most important to the individual patient: more energy, better relaxation and sleep, less anxiety, easier everyday movement, strengthened heart, weight loss, or vigorous and attractive appearance. Elicit perceived obstacles to regular exercise. Defuse concerns about injuries by emphasizing that they can be prevented with a sensibly planned, gradually implemented exercise program.

3. Evaluate patient's physical status A thorough history and physical should precede exercise as the first step in preventing injury. Particular disabilities that may affect the type or amount of exercise recommended include cardiovascular, musculoskeletal, or sensory deficits. The existence of conditions such as orthostatic hypotension or insulin-dependent diabetes mellitus also will affect your advice. Certain categories of medication interact with exercise and should be considered and perhaps adjusted (diuretics, insulin, glycemic agents, beta blockers, tranquilizers).[3] A stress test should be administered to those with any significant cardiovascular symptoms or physical findings.[4]

Help Your Patient Get Started

4. Assist with choosing an activity There are several important factors in the choice of an activity. Probably the most important, however often overlooked, is pleasure. If the activity promises to be enjoyable for an

Figure 1. Exercise Checklist

Patient's Name_____

Date_____

Patient Profile

Current Activity Level:
Type_____
Frequency_____
Duration_____
Adequate: Yes_____No_____
Perceived benefits of regular exercise:_____
Perceived obstacles and concerns:_____
Physical disabilities
_____cardiovascular_____syncope_____musculoskeletal
_____sensory_____orthostatic hypotension_____other
Stress test, if cardiovascular indications:_____
Relevant medications:
_____diuretics_____beta blockers_____insulin
_____tranquilizers_____glycemic agents
Preferred types of exercise:_____
_____

Patient agrees to:
_____make a commitment to exercise at least 3 times/week for 20 minutes, starting on:_____
_____plan a schedule
_____keep track of progress
_____warm up, cool down
_____monitor intensity of exercise by heart rate or physical signs
_____refer to written materials

Follow-up
Date_____
Current Activity Level:
Type_____
Frequency_____
Duration_____
Adequate: Yes _____No_____

Counseling

Decision to Exercise
_____Provided positive reinforcement for some exercise
_____Recommended increased activity, both routine daily activity and planned sessions
_____Emphasized benefits of regular exercise
_____Defused concerns and assisted with resolving obstacles
_____Evaluated physical status

_____Reviewed medications for potential interactions & make indicated recommendations

Incorporating Exercise into Daily Routine
_____Helped patient choose an activity that is most likely to be enjoyable, convenient, social or group oriented, within budget and tailored to physical abilities
_____Asked for a commitment to exercise at least 3 times per week for 20 minutes, setting a specific starting day
_____Elicited a realistic exercise schedule
_____Encouraged recordkeeping; provided form
_____Provided information and written materials about exercising safely and effectively:
_____slow progression_____warming up, cooling down
_____intensity of exercise, why important,
_____how and when to monitor_____warning signs
_____clothing and weather

Promotion of Continued Exercising
_____Praised patient
_____Encouraged support of family and friends
_____Recognized physical improvements
_____Helped patient anticipate excuses

individual, it is more likely to be tried or continued. Activities that are convenient, safe, and provide opportunities for social interaction also promote the exercise habit. Various types of activities tend to accomplish different physical goals. For example, gardening promotes flexibility, calisthenics promote muscular strength, continuous movement of the large muscle groups (as in brisk walking or bicycling) promotes endurance and cardiovascular fitness. The best exercise program includes all three types of movement. Recommendations should be tailored to individual abilities. For example, stretching exercises for flexibility may be a good start for a completely sedentary person.

Walking is probably the simplest, safest[5] activity and has the potential to meet all these criteria. Brisk walking, preferably with a partner, would be a good choice for most patients.[6]

5. Ask patient to make a commitment to exercise at least three times per week for 20 minutes according to an agreed schedule Encourage your patient to make exercise a part of a daily (or three times weekly) routine. To get the benefits, it's important to exercise at least three times a week for a minimum of twenty minutes. Decide together the times and days that will work in the patient's routine. A written "exercise prescription" that you (and perhaps the patient) sign strengthens your message (Figure 2). Keeping track of exercise with a written record helps establish the routine.

6. Provide information and written materials about exercising safely and effectively Issues to address include:

Warming up Begin exercise gradually and gently. Stretch muscles or walk slowly for ten minutes.

Cooling down Taper off rather than stop abruptly.

Intensity of exercise Encourage the older patient to go at his/her own pace, making very gradual increases in intensity. Intensity can be guided by the "talk test:" it should be possible to carry on a normal conversation. Or you can show your patient how to check his/her heart rate during exercise to be sure it is in an effective but safe range:

- Have patient stop briefly, check carotid or radial pulse for ten seconds, multiply by six.
- The effective but safe heart rate for an individual can be determined by: (220 - patient's age) x .60 {for 60 percent of maximum heart rate} or see Figure 3.
- The target heart rate should be 60 percent of the maximum heart rate initially; it never should exceed 75 percent of maximum heart rate.

Warning signs The patient should be cautioned to avoid overdoing it. Stop (gradually) for breathlessness, rapid pulse, or pounding heart. Contact physician for chest discomfort, extreme shortness of breath, dizziness, nausea, or persistent joint or muscle discomfort.

Extreme weather In hot or humid weather, exercise in air-conditioned facility or during coolest part of day. Dehydration is the biggest concern. Drink water before, during, and after exercise.[7] Wear loose, porous clothing. In cold weather, layer clothing rather than wear a few bulky items.

Shoes Insist on good quality shoes that provide stability and minimize strike impact.

Patient Education: *Join the Active People Over 60,* Office on Aging, State of Maryland, 301 West Preston St., Baltimore, MD 21201 301-225-1094. Call or write for multiple, free copies of this excellent pamphlet.

Figure 2. Exercise Prescription

I agree to _____ (type of activity) at least three times per week for at least 20 minutes, starting_____(date).

Schedule:	Mon.	Tues.	Weds.	Thurs.	Fri.	Sat.	Sun.
Time of Day							

Intensity:
Heart rate should reach_____
but never go higher than_____
Reasons to slow down:
breathlessness
inability to talk normally while exercising
Reasons to contact physician:
chest discomfort, dizziness, nausea,
extreme shortness of breath, persistent joint or muscle pain
Warm up for 5 to 10 minutes before exercise; cool down 5 to 10 minutes after exercise (stretching and/or slow rate of chosen exercise).
Ask for encouragement from family or friends.
Patient signature_____
Physician signature_____

Promote Continued Exercise

Attention to the issues of pleasure, social interaction, convenience, safety, family support, and encouragement increase the probability that the older individual will

Figure 3. Intensity of Exercise

Age (years)	Heart Rate Should Reach (beats/min) *	But Never Exceed (beats/min)
50	102	127
55	99	123
60	96	120
65	93	116
70	90	113

Or use the formula (220 - patient's age) x .60 = target heart rate for a target heart rate at 60 percent of maximum heart rate.

Adapted from: Exercise and Your Heart, US DHHS, PHS, NHLBI, 1981.

*Target rate: 60-75 percent of maximum heart rate

begin an exercise program and make it a part of his or her routine for the long term. It can be useful to help the patient anticipate obstacles or excuses that might sabotage good intentions. The physician can reinforce the patient's efforts through praise as well as recognition of physical improvements such as lowered heart rate, lowered blood pressure, and weight loss.

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Vision: Age-Related Macular Degeneration

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Age-related macular degeneration (AMD) is the leading cause of irreversible severe visual loss in the United States among persons over 50 years old. The majority of patients who develop severe visual loss from AMD have exudative disease. Treatment for AMD has been shown to be effective for only a small portion of patients who have well-defined choroidal neovascular membranes (CNVM) outside the foveal center. Even when successfully treated, severe visual loss is postponed for only about 18 months because of the high rate of recurrent CNVMs extending through the fovea. Presently, low-vision aids are the only treatment available for the majority of patients with exudative disease.

Age-related macular degeneration (AMD) is the leading cause of severe visual loss in the United States in people over 50 years of age.[1,2] Despite its health importance, relatively little is known about its etiology, and specific treatment is possible only for selected patients with the neovascular stage.[3]

There is no universally accepted definition of AMD. Clinical manifestations of AMD include drusen and geographic atrophy of the retinal pigment epithelium (RPE), as well as retinal changes associated with choroidal neovascularization, in an individual over 50 years old. Since drusen are present in over half the population over 70 years old,[2,4] some investigators prefer to reserve the term AMD for people who have these clinical features and *some* degree of visual loss.

Clinical Features

Drusen are the earliest detectable feature. Patients generally are asymptomatic and retain excellent visual acuity; however, mild metamorphopsia and decreased central acuity may be present. Ophthalmoscopy demonstrates small yellow excrescences beneath the RPE, clustered in the posterior pole (Figure 1). Histopathologically, drusen are localized deposits lying between the basement membrane of the RPE and the remainder of Bruch's membrane. Their pathogenesis is unknown. Clinically, they vary in number, size, shape, distribution, pigmentation, and degree of elevation.[3]

One or several areas of well-demarcated atrophic RPE accompanied by choriocapillaris atrophy may be present.[5] This is termed geographic atrophy. The photoreceptors are metabolically dependent on the RPE; therefore, areas of geographic atrophy usually are accompanied by loss of the overlying photoreceptors.[6] Consequently, the development of geographic atrophy is one way in which visual loss can develop in macular degeneration. Geographic atrophy may appear *de novo* or as a result of regressing drusen[7] or following collapse of a serous detachment of the RPE.[8]

Although most patients with AMD manifest drusen only, the majority of patients who experience severe visual loss from AMD do so from the development of neovascularization and related exudative complications.[2,9] These neovascular features include choroidal neovascularization (CNVM), serous or hemorrhagic

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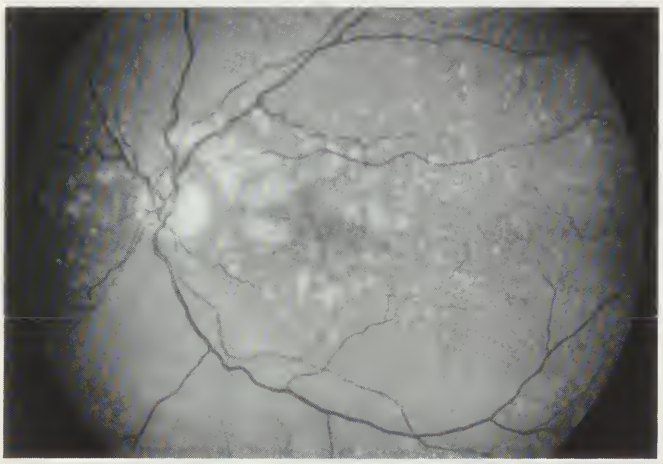


Figure 1. Ophthalmoscopic appearance of drusen. Seventy year old woman with 20/25 vision.

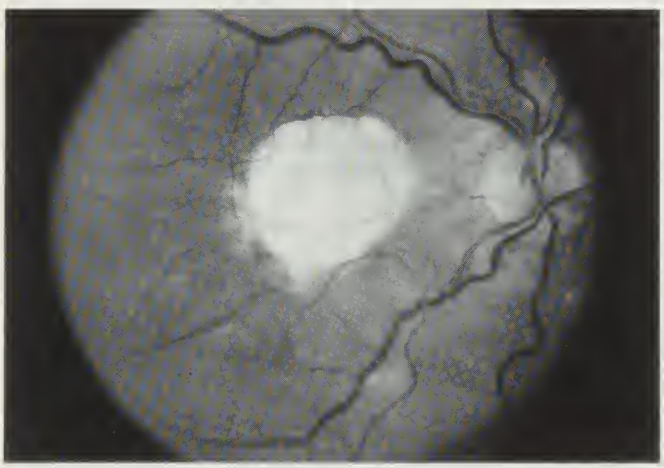


Figure 2. Ophthalmoscopic appearance of disciform scar. Seventy-five year old man with 20/400 vision.

detachments of the RPE, fibrovascular disciform scarring, and vitreous hemorrhage. Ophthalmoscopically, a CNVM appears as a round to oval, greenish-grey lesion associated with subretinal blood or lipid, and a neurosensory retinal detachment. The pathogenesis of the development of choroidal neovascularization is unknown.

The ophthalmologist or primary care physician responsible for any AMD patient must maintain a high index of suspicion that neovascularization is present whenever the patient has sudden or recent central vision loss, including blurred vision, distortion, or a new scotoma. A fluorescein angiogram should be obtained promptly (one to three days) to determine if a treatable lesion can be identified.

Most cases of untreated choroidal neovascularization progress to a fibrovascular scar that replaces most of the outer sensory retina and RPE lying between the choroid and retina. These scars are white, to yellow, or black and may be associated with subretinal fluid, hemorrhage, and/or lipid (Figure 2).

Epidemiology and Treatment

The prevalence of AMD is strongly age related. In the Framingham Eye Study 28 percent of subjects age 75 and older had AMD.[2] Other potential risk factors include a positive family history, lifetime sunlight exposure, cigarette smoking, light iris color, hyperopia, and cardiovascular disease.[1,9,10]

Currently no specific treatment has been shown to alter the natural course of nonexudative macular degeneration (drusen or geographic atrophy). Since approximately 10 to 15 percent of patients with drusen eventually may develop exudative manifestations of AMD over their lifetime, periodic ophthalmic examination is warranted. In addition, daily monitoring of the central visual field including the use of an Amsler grid chart (Figure 3) should help the patient recognize the early symptoms of subretinal fluid caused by a CNVM. Any central visual disturbance should prompt a semi-emergent reevaluation.

Laser photocoagulation can reduce the likelihood of severe visual loss in patients with well-defined CNVMs outside the central fovea. The benefit of photocoagulation is greatest one year after treatment. In the Macular Photocoagulation Study (MPS), 43 percent of untreated eyes as compared to 21 percent of treated eyes progressed to severe visual loss 12 months after treatment.[11,12] The MPS has ongoing clinical trials evaluating laser photocoagulation of CNVMs involving a portion of or the actual center of the fovea.

Unfortunately, a large proportion of patients

manifesting CNVM associated with AMD have angiographically poorly defined neovascularization.[13] To date, no specific laser therapy has been shown beneficial in this group of patients.

Once a disciform scar has developed, laser treatment is of no proved benefit.

Patients with central visual impairment bilaterally should be advised about the availability of a variety of low-vision aids, and a thorough low vision evaluation should be conducted. Patients also should be advised of the community resources available to assist people with visual impairment.[3]

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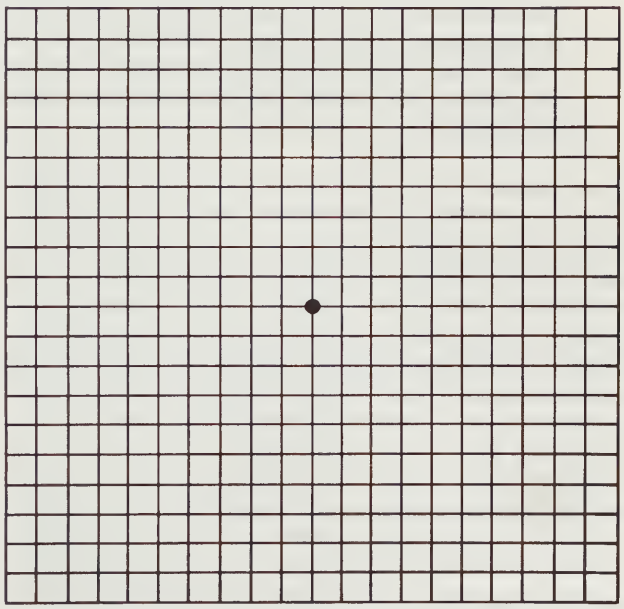


Figure 3. Amsler grid chart used for self-examination of central visual field. Paracentral distortion or scotomas are evaluated.

Hearing

STEFFI B. RESNICK PhD, CCC-A

Estimates of the prevalence of hearing impairment in individuals over 65 years old are on the order of 30 percent.[1] Although the psychosocial consequences of hearing impairment may be profound, less than 20 percent of hearing-impaired adults use hearing aids to compensate for their hearing loss. Primary care physicians play a vital role in identifying hearing impairment in the elderly and in assisting the older adult in obtaining rehabilitative services, including hearing aids. Screening tools, which are inexpensive, simple to use, and valid, are available for use in the primary care setting.

Presbycusis (progressive hearing impairment affecting older adults) reflects the combined effects of aging, noise exposure, ototoxic medication, systemic medical disorders, and genetic susceptibility.[2] The hearing loss typically is bilateral, mild to moderate in degree, and affects hearing in the high-frequency region (above 1000 Hz) to a greater extent than hearing in the low frequencies.[3] As a consequence, the patient's complaint often is "I can hear people talking but I cannot understand what they are saying." Family members frequently report that the hearing-impaired individual "can hear when he/she is paying attention and looking at me." Thus the patient's communication difficulties may be ascribed erroneously to inattention and decreased cognitive abilities, rather than to a peripheral hearing impairment.

The management approach for a patient who presents with hearing loss is, in large part, determined by the type of hearing impairment (conductive, sensorineural, or mixed) the patient manifests.

Conductive and Sensorineural Hearing Loss

Conductive hearing loss is caused by inefficent transmission of sound from the pinna through the external auditory canal and middle ear to the inner ear. Thus, it may be caused by simple obstruction of the external auditory canal by impacted cerumen or by pathology of the middle ear such as otosclerosis, glomus body tumors, or otitis media.[4] Medical and/or surgical intervention may be indicated and may reduce the extent of the conductive hearing loss.

Sensorineural (neurosensory) hearing loss refers to hearing loss caused by lesions of the cochlea or the VIII cranial nerve.[4] In cases of sensorineural hearing loss, the patient typically reports difficulty in understanding speech in the presence of background noise and has a decreased tolerance for loud sounds. Mixed hearing loss is when both sensorineural hearing and conductive hearing loss are present.

Presbycusis is a sensorineural hearing loss reflecting primarily degenerative changes in the sensory and neural stuctures of the inner ear and, to varying degrees, degenerative changes in the central auditory pathways.[5]

The findings of an audiological evaluation can assist the physician in the differential diagnosis of the hearing impairment. The basic tools of the audiologist's repertoire are pure-tone and speech audiometry.[6] Pure-tone thresholds (the minimum intensity at which pure tones are audible to the patient) are determined and compared with the normative values for young adults to estimate the degree of hearing loss. Further comparison of the air-conduction thresholds (obtained when the tones are presented via earphones) with the bone-conduction thresholds (obtained when the tones are presented via a vibrator behind the ear to stimulate the inner ear, bypassing the middle ear) permits assessment of the degree of conductive involvement. The sensitivity of those measures for distinguishing between conductive and sensorineural pathology is enhanced by the audiologist's use of tympanometry.[7] Tympanometry permits assessment of the efficiency of the middle ear system by introducing systematic changes in air pressure in the ear canal. Tympanometry is of assistance in the identification of middle ear disorders such as otosclerosis and Eustachian tube dysfunction.

Speech audiometry is used largely to determine the patient's ability to identify single syllable words when the words are presented at a level that is clearly audible. Word identification scores (speech discrimination scores) may be used to predict the patient's ability to benefit from use of a hearing aid.

Screening

The traditional approach to identifying hearing impairment was to screen hearing at levels of 40 dB above normal hearing threshold at selected frequencies. Thus, hearing screening required use of trained person-

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nel and an audiometer and was too costly and time consuming to be practical within a primary care setting. Two recent developments have made screening in the primary care setting cost effective, simple, and practical: (1) the formulation and validation of a ten-item self-report questionnaire (the HHIE-S);[8] and (2)the manufacture of the Welch-Allyn audioscope, a hand-held otoscope that incorporates a signal generator and automatically delivers a tonal sequence at the prescribed screening level. The sensitivity, validity, and reliability of both the self-report questionnaire and the audioscope as screening tools for identifying hearing impairment in elderly patients has been demonstrated.[9]

Counseling the Hearing-Impaired Patient

Physicians play a vital role in the identification of hearing loss in the elderly and in encouraging use of a hearing aid when warranted.[10] Despite the psychosocial consequences of hearing impairment,[11] hearing aids are obtained by fewer than 20 percent who need them.[12] The limited use of hearing aids is, at least in part, a reflection of the advice patients receive from their physicians and other health care professionals.[13]

Technological advances in the manufacture of hearing aids and research on hearing aid selection have made it possible to meet the needs of the majority of hearing-impaired older adults. The extent to which a person may be anticipated to benefit from the use of a hearing aid depends on the extent and characteristics of the hearing loss, as well as on the communication needs of the patient and on his or her motivation to use amplification.[14] Common misconceptions persist regarding the use of hearing aids by individuals with sensorineural hearing loss, however those with poor speech understanding or with limited tolerance for loud sounds can benefit from use of a hearing aid, provided the instrument is selected appropriately, the patient is adequately counseled regarding its use, and follow-up services are provided. The patient who is not in a position to use a personal hearing aid may benefit from the use of other assistive listening devices, such as a telephone amplifier, a personal infrared system, or closed caption device for use with TV.

Two sources of consumer information for the hearing-impaired patient are the National Association for Hearing and Speech Action, Rockville, MD (301-897-8682) and Self-Help for Hard of Hearing People, Bethesda, MD (301-657-2248).

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Sexuality

PAUL H. EPHROSS PhD

Empirical research, clinical experience, and greater sophistication about the interaction of social, psychological, and biological factors have produced marked changes in the appreciation of the importance of sexuality in older persons. An earlier view linking sex exclusively with reproductive function has given way to a holistic view of sex as vital to self-concept, the maintenance of healthy interpersonal relationships, and a sense of integrity. Older adults often have difficulty communicating sexual problems, concerns, and questions because of their conflicting attitudes and perceptions. Sexual problems often are presented covertly, expressed in vague terms, or masked by embarrassment. Physicians need to be aware of the possibility of covert sexual dysfunctions, clear about their own attitudes and expectations to avoid stereotyping the elderly, and knowledgeable about pharmacological, organic, and psychosocial bases of sexual problems in older patients.

Views of geriatric sexuality have undergone profoundly meaningful changes over the past 50 years. Earlier views related sexuality so thoroughly to reproductive function that sexual activity of older adults was viewed as either unimportant or as aberrant. Stereotyped views of the elderly as "dirty old men" or as "old witches" not only pervaded folklore but also made their way into purportedly scientific literature in the health sciences.[1] Other reasons for the comparative neglect of the sexuality of older persons have included an association of sexual attractiveness with youth, psychological resistance to viewing older persons as sexual active, the unfashionable views of geriatric sexuality as a topic for research, and the resulting lack of high quality empirical research.

Advances over the past two decades, however, have produced a consensus about the complexity and importance of sexuality in the later years of life that may be summarized as: (1) sexual expression continues throughout life and is inextricably intertwined with both physical and mental health; (2) sexual expression includes much more than merely erectile and orgasmic potency; (3) sexual dysfunction is not an inevitable concomitant of aging but rather should be viewed as treatable; and (4) sexual function, as well as dysfunction, involves a complex and interactive system of social, psychological, organic, and biochemical variables.[2]

Today's older adults have lived through major changes in societal attitudes. As a result, they often manifest reticence, embarrassment, and ambivalence regarding their own sexual concerns. It is the physician's responsibility to recognize that concerns about sexual function and dysfunction may underlie complaints about ill-defined symptoms, vague and sometimes meandering reports of interpersonal tensions and difficulties, and other seemingly unfocused communications. Sexual concerns also may be expressed covertly through anxious and sometimes poorly expressed questions about the possible side effects of medical or surgical treatments, by resistance to cooperating with medically prescribed regimens, and by demands for the physician to meet directly with spouse or partner to explain findings.

Preliminary evaluation of sexual dysfunctions requires effective communication: careful use of words that are comprehensible to elderly patients. Words with which a physician is comfortable may be outside a patient's vocabulary or may have unintended connotations for patients of a particular racial/ethnic background. One should not assume understanding but should probe for it. Physicians need to be aware that they may themselves hold negative attitudes toward subjects with which patients are uncomfortable (masturbation, for example) and also should be aware that the elderly, like other segments of the population, are not monolithic but vary considerably in the intensity of their sexual interests and behaviors.[3]

Though gaps still exist in research on the sexuality of older persons,[4] it is clear that careful evaluation of sexual dysfunction in older persons should include consideration of at least the following factors:[5]

1. The availability of a desirable partner in the light of the total social situation of the patient
2. The general level of mental health of the patient, with particular emphasis on the presence of depressive symptomatology
3. Gynecological and urological evaluation, sometimes hormonal studies
4. The presence of disease processes that are known to have negative effects on sexual function of some persons, such as diabetes and various neurological

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conditions, as well as the presence of debilitating symptoms, such as chronic pain
5. The effects of disfiguring surgery and of chronic symptoms, such as limited mobility, that interfere with self-image of the elderly person as sexually desirable
6. The potential effects of the use and abuse of "recreational" drugs, most notably alcohol, on sexual function
7. The potential effects of prescription drugs, several classes of which can have negative effects on one or more phases of the sexual desire-arousal-orgasm progression[4]
8. For patients living in congregate or institutional settings, the effects of sex-negative and often personally degrading policies and procedures that can dehumanize and therefore desexualize older persons
9. Specific dysfunctional cognitive, attitudinal, or behavioral patterns that operate to prevent healthy and satisfying sexual expression

An essential element of sexual counseling that can be provided by virtually all physicians who come in contact with elderly is permission giving; that is, giving the older person permission to be sexual, to have sexual concerns, and to seek sexual fulfillment. Past this, referral to a skilled sex counselor or therapist should be undertaken.

Finally, particular note should be taken of the sexual needs and concerns of older persons who are recovering from acute illness, such as myocardial infarction, or are chronically ill. Within very broad limits, no condition should be viewed as eliminating sexual concerns or interest. Where a younger person confined to a wheelchair, for example, may raise sexual concerns directly, an older patient whose mobility is limited may not. If this is this case, it is usually appropriate for the physician to raise the issue, bringing into focus the concerns that almost always exist for the patient.

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Immunization

ALAN LEVITT MD

The elderly are frequently underimmunized against vaccine-preventable infectious diseases. Comprehensive immunization of patients for vaccine-preventable diseases represents a major challenge for physicians treating the elderly. The healthy elderly should be specifically targeted since they are most likely to mount an appropriate immune response to the vaccine. Programs to identify inadequately immunized patients should be widely implemented.

Childhood vaccination programs nearly have eradicated vaccine-preventable childhood infectious diseases. Despite widely accepted and published guidelines,[1-3] immunization programs in adults, specifically the elderly, have been much less successful in disease eradication. Three targeted immunizations for the elderly are tetanus toxoid, influenza vaccine, and pneumococcal vaccine (Table).

Tetanus Toxoid

Seventy percent of the reported cases of tetanus (less than 100 cases yearly) occur in adults over 50.[4] The case fatality rate is eight times higher (42 percent) for tetanus patients over 50 than for younger patients. Despite this,

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Table. Immunization Schedule for the Elderly*

Immunization	Schedule
Tetanus-diphtheria toxoid (Td) (0.5 cc IM dose)	Primary: 2 doses 4-8 weeks apart; 3rd dose 6-12 months after 2nd dose Booster: 1 dose every 10 years
Influenza vaccine (0.5 cc IM dose)	Annual vaccination with updated vaccine
Pneumococcal vaccine (0.5 cc IM/SQ dose)	Single vaccination

*See ACIP guide[1] for other immunization recommendations in adults.

primary immunization with tetanus toxoid in the elderly is highly effective; development of protective antibody levels in healthy elderly outpatients approaches 100 percent.[5]

Inadequately immunized adults should complete a primary series of three doses of toxoid, the first two doses given 4 to 8 weeks apart and the third given 6 to 12 months after the second.[6] Adults with adequate prior immunization should receive booster doses at 10-year intervals. Giving the booster doses routinely at the mid-decade ages (55 years, 65 years, etc.) may improve compliance. Prophylaxis for tetanus in wound management is guided by the prior immunization status of the patient and the severity of the wound.[6] The recommended toxoid is the combined tetanus and diphtheria toxoids adsorbed (Td). Mild local reactions commonly occur at the injection site. Severe Arthus reactions may occur in adults receiving frequent toxoid doses. Systemic complications or neurologic reactions are rare; contraindications are prior severe reactions.

Influenza Vaccine

Eighty to 90 percent of the estimated 20,000 annual influenza-associated deaths occur in the elderly.[7] Elderly patients who are institutionalized or who have chronic health problems are at a substantially increased risk for complications.[8] Antibody response to the influenza vaccine in the elderly may be delayed with a diminished peak response and an earlier decline in protective levels.[9] Vaccine efficacy in the institutionalized elderly is decreased; patients are protected from lower respiratory complications, hospitalization, and death rather than from actual clinical illness.[10] In the healthy elderly, however, vaccine efficacy appears to match that of the younger patients.[11]

Because inactivated trivalent influenza virus vaccine is updated yearly based on circulating worldwide influenza virus activity,[12] it needs to be given intramuscularly every fall. Side effects include localized soreness and erythema or, occasionally, mild constitutional symptoms. Immediate hypersensitivity reactions occur rarely, usually in patients with severe egg allergy; thus the vaccine should not be given to patients with known hypersensitivity to eggs. The vaccine contains only killed virus and cannot cause influenza, nor is there increased risk for developing Guillain-Barre syndrome as was seen with the swine influenza vaccine. Chemoprophylaxis with amantadine can be given during outbreaks of influenza A (for discussion of current chemoprophylaxis recommendations, see reference 12).

Pneumococcal Vaccine

The incidence of pneumococcal disease is increased twofold in those over 60[13] with fatality rates ranging from 17 to 40 percent.[14] The efficacy of the pneumococcal vaccine in the elderly in preventing disease has been controversial. While the vaccine has a 70 percent effectiveness in preventing disease in a healthy elderly population,[15] the efficacy of the vaccine in high-risk elderly patients has been disappointing.[16] Efficacy is most likely related to the patient's ability to mount an appropriate immune response to the vaccine.

Despite the controversy, routine pneumococcal vaccination is recommended in both the healthy and "high-risk" elderly (those with cardiovascular disease, chronic pulmonary disease, splenic dysfunction, or other conditions associated with immunosuppression).[13] The current pneumococcal vaccine contains the capsular polysaccharides of the 23 types of *Streptococcus pneumoniae* that cause 87 percent of pneumococcal bacteremia in this country. A single vaccination provides persistent antibody titers for at least three to five years. Revaccination is not recommended due to Arthus and systemic reactions seen with "booster" doses. Patients who received the older 14-valent vaccine should not be reimmunized. Side effects from single vaccination include pain and erythema at the injection site. Fever and myalgias occur in less than 1 percent, and anaphylaxis is rarely seen. Pneumococcal and influenza vaccination can be given during the same visit in separate sites without increasing adverse reactions.

Immunization Strategies

Despite the documented efficacy of adult immunization, most elderly persons are not properly immunized. Almost half of all adults older than age 60 lack protective levels of antibody.[5] Less than 20 percent of high-risk individuals receive the influenza vaccine, and only 10 percent of adults with recommended indications report having received the pneumococcal vaccine.[17]

Congress has mandated a two-year study of Medicare coverage for influenza vaccination. Financial reimbursement for pneumococcal vaccination by Medicare since 1981 has not significantly improved vaccine use.[17]

Strategies and programs, both on an inpatient and outpatient basis, have been developed in an attempt to increase vaccination rates. Routine assessment of the immunization status of every elderly patient should be

done at each office visit and hospital admission. Adult immunization records should be part of the permanent patient record. Immunizations can be successfully given at hospital discharge[18] or in conjunction with influenza vaccination.[19]

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Pharmacotherapeutics in the Elderly

PETER P. LAMY PhD, ScD

Drugs are the most cost-effective modality of chronic care, and older adults with multiple illnesses often need multiple drugs. Because this may lead to drug interactions, adverse drug effects, and problems with compliance, drug regimens should be individualized and as few drugs as possible used. When a new drug is indicated, it is important for the physician reassess the appropriateness and continued need for the existing regimen. Patients and providers must agree on a particular regimen, its goals, promises, and limitations.

According to the National Institute on Aging (NIA), the elderly probably take between four and five drugs, at any one time. Women use more drugs than men. Drug use increases with age, but declines among the very old.[1] Both the number of drugs and the amounts given have continued to increase. It has been established that elderly patients may receive between 17 and 20 prescription drugs annually. Nursing home residents receive an average of 6 to 7 drugs daily, but one-third of them receive between 8 and 14 daily. Those cared for in the alternate care sector, for example board and care, receive close to 6 drugs daily.[2]

According to the National Medical Care Utilization and Expenditure Survey conducted in 1980, 50 percent of patients over 65 are classified as "heavy users" of prescription drugs (8 or more Rx/year) with a mean of 15 Rx/year. Significantly, 20 percent of the elderly are classified as nonusers. Those 60 and over (17 percent of the population) account for 39 percent of all prescription drugs dispensed, and those 65 and over (12 percent of the population) for 32 percent.[3,4] It is estimated that 70 percent of all prescription drugs dispensed to elderly are chronic care drugs. Prescription drug use and drug use patterns are described in Tables 1-3.

Statistics on nonprescription drug use by the elderly are scarce. An estimated 60 percent of elderly patients use these drugs, and it has been predicted that their use will increase sharply as a cost-saving measure and as more prescription drugs (for example, cimetidine, ranitidine) are switched to over-the-counter (OTC) status. In general, OTC drug use closely parallels prescription drug use. Unfortunately, physicians do not appreciate the potential interactions of OTC and prescription drugs.

Consequences of Polymedicine

Concern has been expressed about the possibility of adverse drug reactions (ADRs) among the elderly. The American College of Physicians reported that the cost of ADRs to society is "substantial." Those 65 and over face twice the risk of iatrogenic disease that younger

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Table 1. Most Often Prescribed Drugs for the Elderly *+

1. Diuretics
2. Antihypertensives
3. Coronary vasodilators
4. Digitalis preparations
5. Psychotropics
6. Alpha/beta blockers
7. Antiarthritics
8. Narcotic analgesics
9. Corticoids, plain
10. Bronchodilators
11. Antispasmodic (GI/GU)
12. Analgesics

* Mentions/100 population
\+ Source: National Disease & Therapeutic Index, 1986

Table 2. Prescription Drug Use

Number of Rx Products	Age/Location of Patient: 65+/NH* (percent)	65+ non-NH (Percent)	Under 65 (Percent)
One	12.0	27.4	43.9
Two	14.0	21.5	25.1
Three	14.8	16.2	13.3
Four	14.3	11.6	7.3
Five or more	44.9	23.4	10.4

*NH = Nursing Home

Table 3. Specific Drug Categories

Drug Category	Age/Location of Patient: 65+/NH* (Percent)	65+non-NH (Percent)	Under 65 (Percent)
Cardiovascular			
Beta-blockers	4.4	17.8	35.2
Ca-antagonist	2.9	8.6	8.6
Vasodilators	29.5	26.5	16.2
Digitalis	29.2	12.5	5.4
Psychotropics			
Antipsychotics	60.5	12.5	14.8
Anti-anxiety agents	17.1	59.0	51.0
Antidepressants	12.3	16.0	18.1

*NH = Nursing Home

people do. Admissions to hospitals due to ADRs vary between 12 and 15 percent, but when other factors are considered, almost 27 percent of those using multiple drugs are admitted at one time or another due to adverse reactions. In one study of a geriatric population, 31 percent of hospital admissions were associated with undesired drug effects.

An increased prevalence of ADRs in the elderly has been documented, from 10.8 percent (those taking one drug) to 27 percent (those taking six). The 1987 FDA ADR report shows that people over 60 were associated with 33 percent of all hospitalization reports due to ADRs and 50 percent of all death reports. Importantly, 80 percent of all ADRs occur with well-known drugs and involve toxic reactions to their usual doses. Major factors are multiple drug use, poor supervision of chronic drug use, patient nonadherence to an agreed regimen, and lack of application of current knowledge on the part of the provider.

Yet there is still a relative uncertainty as to the probability and magnitude of adverse drug effects in the elderly. The problem may be more serious than indicated.

Drug Interactions

Drug interactions often result in adverse drug effects. They occur most often in long-term care institutions, in patients with multiple pathology, receiving multiple drugs. Most interactions(about 75 percent) are predictable and avoidable by adjustment of dose or administration times, or by selection of an appropriate alternate drug.[5,6] The drugs most often involved are not necessarily new and exotic drugs but old and well-known chronic care drugs.

Few data are available on this type of drug interaction, perhaps because the outcome may be confused with loss of effectiveness of a drug which had previously controlled a particular disease. It could also be confused with a worsening of a disease previously controlled. For example, hepatic dysfunction, severe CHF, and acute pulmonary edema can decrease theophylline clearance and clearance can again be altered when these diseases start to respond to treatment. Patients most at risk are those with an acute exacerbation or unstable disease, kidney or liver dysfunction, and those seeing more than one prescriber. The frequency of drug interactions rises and falls with the number of drugs prescribed. Clinically important interactions may occur in about 6 percent of patients at risk.

There are many different types of drug interactions as shown in Table 4. Most attention has been focused on drug-drug interactions, to the exclusion of the more serious types often encountered in long-term care. Cumulation of side effects is a serious hazard to many elderly patients receiving multiple drugs. Many drugs, prescribed for different therapeutic purposes, may have the same side effect, and their total may lead to serious adverse effects. For example, many drugs are capable of causing transient cognitive disorders, such as delirium, as well as anxiety, depression, insomnia, or undue sedation. Among them are diuretics, analgesics, antihistamines, antiparkinson drugs, antidepressants, beta blockers and other cardiovascular drugs, antipsychotics, cimetidine, and digitalis.

Drugs can alter food metabolism, which in turn can alter drug action. Foods may alter the bioavailability of many drugs. Long-term administration of drugs to elderly with subclinical malnutrition can deplete the patient of specific nutrients, and the deficit may manifest as a disease or problem, such as pseudosenility or difficulty in walking. About 2 percent of the elderly are affected.[7]

Discontinuing Medications

Once chronic care drug therapy has been initiated, it is often, but perhaps mistakenly, believed that permanent drug maintenance will be needed. In view of the facts that drug use may adversely affect a patient's quality of life and that multiple drug use is the major factor responsible for adverse drug effects, there have been more suggestions that chronic drug therapy may not be needed in some instances for some patients and may be undesirable.

Inappropriate duration of use has recently been documented for H-2 blockers and benzodiazepines. As long ago as 1970, it was suggested that most old people on maintenance digoxin did not need the medication and would not relapse into heart failure when it was withdrawn.[8] The US Congress, in passing OBRA 1987, manifested its concern about the inappropriate use of psychotropics; and the Joint National Committee, in its most recent guidelines for the treatment of hyperten-

Table 4 Types of Drug Interactions

Drug-drug interactions
Altered drug effect
· desired
· undesired
Cumulation of side effects*
Drug-disease interactions*
Drug-nutrition interactions
Drug-nutrient interactions
Food-drug interactions
Drug-laboratory test interactions

*Probably most important in long-term care

sion, suggested that providers consider "step-down" therapy.

In considering discontinuation of a medication for an elderly patient, one must remember that abrupt withdrawal may be dangerous and that the most common syndrome associated with discontinuation of any drug is a rebound phenomena of some type. Furthermore, few guidelines are available for withdrawal of drugs from an elderly patient's multiple drug regimen.

Benzodiazepines There is consensus that these drugs are not effective long term, either as sedatives/hypnotics or as antianxiety agents.[9,10] The elimination half-life, duration of treatment, and dose used affect the appearance, manifestation, and duration of withdrawal effects. When two benzodiazepines have similar dependency/tolerance potential, the shorter acting one will cause withdrawal symptoms to manifest more quickly.[11] Delayed onset of sleep and frequent awakenings may occur, as may psychological, physiologic, and perceptual disturbances. They may resemble the insomnia or anxiety originally treated and may be confused with return of these problems. Withdrawal symptoms, which may last from a few days to a few weeks, may be ameliorated by slow, tapered withdrawal. Substitution of a longer-acting benzodiazepine prior to withdrawal has been recommended.

Anticonvulsants The number of seizures a patient had before control was achieved, the type of seizure, the number of drugs tried as single-drug therapy, and the type of treatment all influence withdrawal outcome. Withdrawal can be considered for patients free of seizures for two years. In general, the relapse rate is higher in adults (about 34 percent) than in children. Complex partial seizures carry a good prognosis, and partial seizures indicate a lower risk of relapse. Relapse is perhaps more likely on withdrawal of sodium valproate than of carbamazepine. The risk of relapse is reduced if treatment is withdrawn over three months, although a withdrawal period of from six to twelve months has been suggested.[12]

Antidepressants Discontinuation of antidepressant therapy after remission of depressive symptoms is an attractive idea but should be considered carefully.[13,14] The discontinuation of tricyclic antidepressants can produce symptoms suggesting cholinergic overdrive. If unsuccessful, further episodes of depression are usually more severe and more treatment resistant. If there is a history of relapse, withdrawal may not be effective.

It has been suggested that for six months after symptom remission, maintenance treatment be continued, either at the treatment dose or half. Two-thirds of the treatment dose also has been proposed. Another recommendation is that the patient should be maintained on the treatment dose for four to six months after remission of symptoms. That dose should then be reduced to half the initial dose for another four months, then the remaining dose should be gradually tapered off during another four months. Some suggest that initial maintenance on the treatment dose may significantly reduce the relapse rate. Patients should then be carefully followed to identify prodromal symptoms indicative of relapse. Patients whose initial episode of depression responded rapidly to tricyclic therapy may be the best candidates for withdrawal.

Digitalis Recently 16 studies (487 patients) addressing digitalis withdrawal were evaluated. These studies, for various reasons failed to answer the questions on methodology and effectiveness of withdrawal. Most authors agreed that digitalis, given over time is not clinically beneficial to patients with stable CHF.[15] Overall, it is agreed that a cautious trial of digitalis withdrawal may be warranted in selected elderly patients with stable congestive heart failure, particularly in view of the fact that probably 20 percent of elderly receiving this drug may suffer from unrecognized digitalis toxicity.

Antihypertensives The suggestions that antihypertensive treatment may be successfully withdrawn stem from the hypothesis that the "barostat" mechanism in the carotid sinus might be re-set to a lower, more effective level by treatment. The literature varies widely in describing the effectiveness and dangers of withdrawal. In the Netherlands, it has been estimated that only 6 percent of community living hypertensives may be suitable candidates for withdrawal, with a final figure of 3 percent remaining treatment free after one year.

Another report finds that perhaps 15 to 50 percent of patients may remain normotensive after treatment withdrawal. Of patients willing to "give up" the medication, those most likely to remain normotensive are nonoverweight women with normal ventricular mass and untreated blood pressure in the mild hypertension range, well controlled by treatment, and treated for several years. These are patients at low risk of cardiovascular events who might have responded to dietary manipulation and elimination of other risk factors. Those unlikely to respond favorably are males with a high level of pretreated blood pressure, marked obesity, short duration of treatment, and left ventricular hypertrophy.[16]

Patients with end-organ damage are not suitable candidates for withdrawal. Old people on long-term diuretic therapy without an obvious current indication should have these drugs withdrawn under careful supervision, because of the risk of heart failure, especially left ventricular failure. Thus, supervision is important and the degree of supervision necessary may not be available in the home care sector.[17]

Abrupt withdrawal of clonidine (a centrally acting drug) or beta blockers may result in severe hypertension due to enhanced sympathetic activity or "upregulation" of adrenergic receptors.[18] Patients with ischemic heart disease may develop acute coronary artery syndrome within weeks after abrupt withdrawal of beta blockers. Those without ischemia may complain of palpitations, tremor, sweating, and discomfort associated with tachycardia and a rise in blood pressure.[19] After propranolol withdrawal, the rise in blood pressure is more rapid in younger than in older patients.[20] Withdrawal should be phased, with a reduction of dose by 50 percent over the first four days and consecutive 50 percent reductions at four-day intervals.[18]

Nonadherence to a Regimen

The patient's adherence to an agreed regimen results from a complex interaction between the patient, the caregiver, the provider, the disease, and the treatment. While this complex structure still is not being satisfactorily understood, attempts to apply compliance measures, although successful in acute care, have failed in the outpatient care sector. As many as one-third of elderly patients may commit drug administration errors that could lead to serious clinical consequences. For those found to make frequent errors, the physician should pay particular attention to possible cognitive impairments. Drug discontinuation may occur up to 50 percent of the time, particularly within the first year of the initiation of a chronic care regimen. Almost 25 percent of the elderly may be taking drugs not currently prescribed, and it is most likely that many patients alter drug regimens to conform to their own activities.[3]

Characteristics of patients who may take their medications unreliably have not yet been identified, but it is known that those living alone make more medication errors than do others. Estimates indicate that only 55 percent of tuberculosis patients, 48 percent of diabetics, 46 percent of asthmatics, and 42 percent of glaucoma patients use their medication properly.[22] Yet patients and physicians often overestimate adherence.

Patients continue to be far from candid, possibly trying to avoid embarrassment or an argument with an "authority" figure or simply believing the issue is not important. Factors associated with nonadherence are alcohol abuse, child-proof containers, inconvenience/inability to get appointment, life-style changes, long waiting times, obesity, poor social support, poor general health, and treatment duration, complexity, or cost.

*For those found to make frequent errors, the physician should pay particular attention to possible cognitive impairments.

Patients must understand a particular regimen, its goals, promises, and limitations. In turn, the provider must understand the patient and his or her motivation, health beliefs, and social, economic, and health status. The provider must understand whether the patient can and will follow an agreed-on regimen. Patient satisfaction has been related to technical and interpersonal competence of the provider, more partnership building, more immediate and positive nonverbal behavior, more positive and less negative talk, and more communication overall. The following behaviors and actions may augment the patient's ability and willingness to actively participate in long-term chronic therapy.

Good provider-patient (caregiver) relationship
Continuity of care (same provider)
Increased supervision
Explicit verbal and written instructions
Feedback to patient (caregiver)
Tailor medication to patient's daily schedule
Negotiated (written) contracts
Heightened family, social support
Patient appointment reminders

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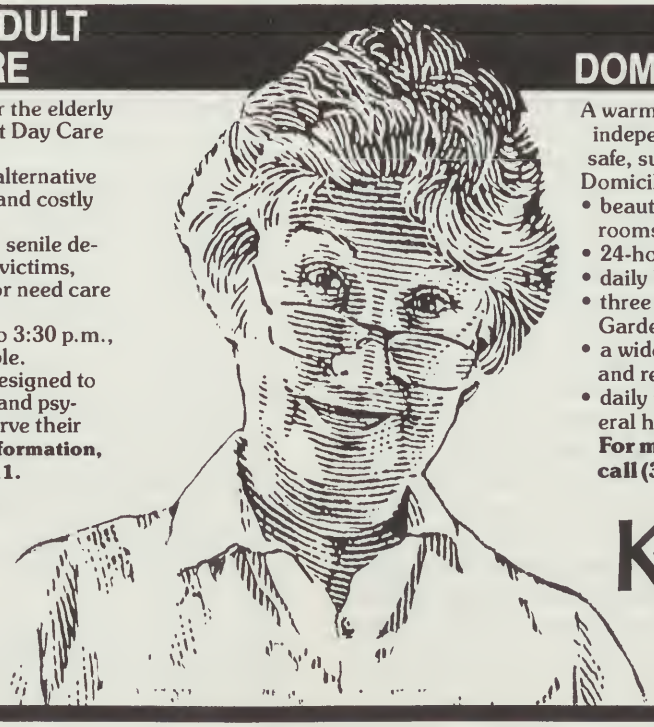
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Rehabilitation in the Elderly

JAMES P. RICHARDSON MD, MEL P. DALY MB, ChB, and ALAN M. ADELMAN MD, MS

Prevention of disease should be every physician's goal, however, when primary or secondary prevention fail, rehabilitation of the patient becomes an additional goal. Elderly patients can be as successfully rehabilitated as younger patients, but their special needs are most successfully met by a multidisciplinary team. Almost every patient with a disability warrants a trial of rehabilitation aimed toward placing the patient in the least restrictive environment possible. Rehabilitation is especially useful in patients with arthritis, and following stroke, joint replacement, and amputation.

While prevention of disease always should be the goal of physicians, many patients, especially the elderly, will first present to the physician with long-established functional impairments and chronic diseases. In these patients, additional goals are prevention of progressio of disease and restoration of function, that is, rehabilitation.

Rehabilitation has been defined as "the process of helping an individual with a significant disability to achieve his or her highest potential from physical, psychological, social, and vocational/economic standpoints."[1] When applied to the care of the elderly, the concepts of rehabilitation, which emphasize patients' functional abilities rather than their diseases, can help a bedbound patient to regain some mobility, a chairbound patient to walk, and housebound patient to become a more active part of his/her community. The principles of rehabilitation medicine should be known to all who provide primary care to the aged. Caring for elderly patients within the traditional medical model (which focuses on the diagnosis of disease, rather than on function) shortchanges those whose impairments are their principal concern.

As the US population ages, the number of disabled persons increase because many disabling conditions are age-related (for example stroke, amputations) and because many younger people with disabilities now survive to the senium.[1] Excluding institutionalized elderly, the percentage who need help doing everyday activities doubles with each successive decade up to age 84 and triples between ages 85 and 94.[2]

Assessment

When an elderly person suffers a catastrophic and disabling event, hospitalization is usually necessary to stabilize the patient and to begin treatment. As soon as the patient is stabilized, the assessment process should begin. Functional assessment evaluates the patient from the standpoint of what the patient can and cannot do in all spheres: physical, mental, social, and psychological. The patient's particular diagnoses and functional abilities must be noted in relationship to his/her home environment, family relationships, desires, and social services available. Medical diagnosis alone often falls short; a diabetic man with an above-knee amputation and an able-bodied spouse, for example, may not have the same needs as a similar patient who lives alone.

Where possible, geriatric patients with disabilities re best evaluated using a team approach. The team may consist of only a physician, a nurse, and a social worker, or may include members of virtually all health care disciplines, including the primary care physician, physical and occupational therapists, speech therapist, recreational therapist, dentist, psychiatrist, and a physiatrist (a specialist in rehabilitation medicine). The assessment process guides the rehabilitation team in formulating an appropriate rehabilitation plan and establishes a baseline to judge future progress. After each discipline has evaluated the patient, all team members meet to decide on short- and long-term goals. These goals are then monitored every one to four weeks.

Assessment consists of several components, not all of which have to be performed by the physician. The components of a good initial assessment are (1) history and physical, (2) functional assessment, (3) mental assessment, and (4) social assessment.

Physical assessment serves three purposes. First, the functional deficit is identified. Second, concomitant medical conditions such as pulmonary and heart disease and arthritis, which may impede the rehabilitation process, are scrutinized. And third, physical assessment seeks to identify previously unrecognized problems such as visual difficulties and swallowing dysfunction following a stroke.

Functional assessment evaluates the patient's ability to perform such functions as dressing, transferring (moving from the bed to a wheelchair), bathing, and grooming. The patient's ability to ambulate and to maintain continence also is examined. These functions are referred to as activities of daily living (ADL). Function is usually rated on a three point scale: independence, assistance of an adaptive device or person, and total dependence. A commonly used functional

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assessment tools is the Barthel Index, first described in this journal.[3] Other frequently used instruments are OARS Physical ADL[4] and Kenney Self-Care Assessment Tool.[5] Another part of the functional assessment involves grading the patient's ability to perform more complex activities such as cleaning, meal preparation, shopping, and managing finances. These activities are rated similarly, using a three-point scale. Ability to perform these activities may determine whether an individual can live independently in the community. The OARS Instrumental Activities of Daily Living (IADL) is an easily administered instrument to assess these activities.[4]

Mental assessment centers on the evaluation of cognitive and psychological function. The presence of dementia in a patient is a strong predictor of poor outcome from rehabilitation. There are numerous tools for assessing cognitive function. Several short instruments are available such as Kahn's mental status questionnaire (MSQ).[6,7] A longer instrument such as the Folstein Mini-Mental State Examination (MMSE)[8] is a more comprehensive screen, yet can be completed in less than ten minutes.

Conditions leading to rehabilitation usually involve a loss of function (stroke, hip fracture) or loss of limb (amputation). Depression or feelings of sadness often are associated with this loss and can hinder the rehabilitation process. Instruments such as the Beck,[9] Zung,[10] or CES[11] depression scale are good screening tools and can provide a baseline for future measurements of the patient's affective state. The Yesavage scale has been validated in elderly populations.[12]

Social assessment includes evaluation of the physical environment, social support, and financial resources. Early in the rehabilitation process, discharge planning is initiated with the goal of placing the patient in the least restrictive environment possible. In the case of the frail elderly, a visit to the patient's home is essential if the patient will be returning there. The physical layout and safety of the home environment should be evaluated. For example, if there are stairs in the home, training in stair climbing should be included in the rehabilitation program. Modifications of the home (especially the bathroom) to accommodate a disabled senior are often overlooked. The patient's social support network (family and friends) are an important resource for the rehabilitation candidate. There may be many adjustments by the patient and his/her family as a result of the deficit, so the family and/or caregiver must be involved in the rehabilitation process from the beginning.

Finally, the patient's financial resources must be considered. Finances may determine the location of rehabilitation, whether inpatient or outpatient. Likewise, the purchase of adaptive equipment and modification of the home environment may be affected by the individual's financial resources.

Rehabilitation of Patients with Specific Disease Processes

Stroke Cerebral vascular accidents constitute the third leading cause of death in the United States and are among the leading causes of morbidity. Two-thirds of completed strokes occur in over 65 years old.[13] The functional consequences are often serious. Rehabilitation produces its best results when started within 48 hours of the event.

The goals of rehabilitation for stroke patients are to prevent further complications, to compensate for physical loss, and to minimize social and economic loss by restoring or maximizing functional ability. The major determinants of functional prognosis are the degree of early recovery, the patient's functional status before the stroke, the presence of supportive caregivers and environment, the patient's ability to learn, and the patient's motivation.

It is estimated that with the help of rehabilitation, 90 percent of patients can be taught to get out of bed, 60 percent can become self-sufficient, and 30 percent of those in the employable age group can return to work.[14] Rehabilitation efforts are less successful in the very elderly, in those with severe underlying cardiac or pulmonary disease, and in patients with underlying cognitive deficits. Patients with left-hemispheric lesions tend to have better functional outcomes although aphasia, alexia, and apraxia may severely limit rehabilitation efforts. Severe sensory loss and the presence of "neglect" are also poor prognosticators for independence. Incontinence of bowel and bladder are common early on, but few patients with otherwise good potential will suffer prolonged incontinence. Prolonged bowel incontinence is a particularly poor sign, probably because the cerebral lesion necessary to create this condition is quite large.[15]

Emotional lability and depression are common but if recognized and treated properly usually respond to therapy. Poststroke depression usually meets DSM-IIIR criteria for a major depressive episode and is not merely a reactive phenomenon, as Robinson, Price, and their coworkers have shown.[16] The antidepressant nortriptyline has proved effective in improving poststroke depression in one placebo-controlled trial.[17]

All patients deserve a trial of rehabilitation. Even in the presence of the poor prognosticators noted above, a significant number of patients will benefit from rehabilitation. Almost all stroke victims should have at least a two week trial of therapy.[18]

Arthritis Chronic forms of arthritis are extremely prevalent in the elderly. Perhaps 30 to 40 percent are significantly symptomatic from their diseases.[19] Pain, muscular weakness, and limitation of joint function may limit functional independence. While treatment with nonsteroidal antiinflammatory drugs and physical therapy may restore the patient to his/her former functional status, this modest accomplishment during an acute flare-up of disease activity may permit an elderly person to manage his or her needs. Rehabilitation can relieve pain, restore function, and improve independence. Avoidance of the wheelchair is important because these patients often exhibit reduced upper body strength.. Ambulation can be preserved with protective devices and splints. Uninvolved parts of the body may be exploited to substitute for disabled limbs.

The goals of treatment should be to maintain and improve joint range of motion and to relieve pain. The patient also is assessed for the need of assistive devices for ambulation and performance of ADLs and IADLs. Treatments that may be helpful are heat (ultrasound, paraffin baths), exercise, and Transcutaneous Electrical Nerve Stimulation (TENS, see below).

Patients with severe arthritis tend to become psychologically dependent, which may affect motivation for rehabilitation. The multidisciplinary team assessment and rehabilitation environment do much to encourage motivation and independence. Elderly patients with rheumatoid arthritis are just as responsive to rehabilitation as are younger patients.[20]

Hip Fractures and Arthroplasty Joint replacement surgery is becoming increasingly common. In 1982, some 75,000 total hip replacements[21] and 40,000 knee replacements[22] were performed in the United States. It is estimated that one in three elderly women and one in six elderly men will ultimately experience hip fracture.[23] Surgical treatment is valuable in patients who will benefit from early mobilization. In order to benefit not only must older patients be fit enough for the operation itself, but also they must be fit enough to undergo the rigorous rehabilitation necessary after the operation. Early weight bearing does not seem to increase the risk of complications, while prolonged nonweight bearing often is associated with increased morbidity in the elderly.[24] Most orthopedists now favor prosthetic hip replacement for fractured hips, especially in elderly debilitated patients, since they can be mobilized almost immediately postoperatively. It may take 6 to 12 weeks before the patient returns to his or her previous level of function.

Amputation The rehabilitation potential of the elderly amputee is most often limited by the associated high incidence of cardiovascular disease, the compromised blood supply to the "good" limb, psychological adjustment to loss of limb, motivation and other medical complications in the early postoperative period.[25] Congestive heart failure and severe coronary artery disease may prevent the use of a prosthesis, as the energy necessary for amputees to ambulate with prostheses increases drastically relative to the able-bodied (a 40 percent increase with a below-knee amputation and a 90 percent increase in a patient with an above-knee amputation).[26]

Rehabilitation can be enhanced greatly by preoperative counseling, balance training, early postoperative mobilization, and prevention of contractures and pressure sores. Appropriately evaluated and motivated elderly can do quite well and often regain independence.

Parkinsonism After stroke and dementia, Parkinson's disease is the third most common disabling neurological disease in the elderly.[27] Even moderately afflicted individuals will benefit from therapy to improve weakness, range of motion, faulty posture, and coordination. Since fear of falling is especially common, directing patients to walk with their hands clasped behind their backs or asking them to take longer strides may help, but often a wheeled walker is necessary.[28] This assistive device should be spring loaded so that the patient can stop by putting pressure on the rear wheels. Thus a patient is helped with forward motion without the added motion of picking up the walker each time. The typical low-volume speech, usually delivered in a monotonous tone, can be aided with speech therapy.[29]

Physical Treatments

Although often relied on in the past to the near exclusion of therapeutic exercise, physical agents such as heat, cooling, or TENS therapy may be helpful in many circumstances, as noted above. However, a few caveats about their use in the elderly apply.

Deep or prolonged application of heat should be avoided in elderly patients with impaired circulation, because an intact blood supply is necessary to carry heat away and avoid a burn. Microwave or shortwave diathermy must be used with caution in patients with cognitive impairment, as there is no objective way of measuring how much energy is delivered to tissues by these modalities.[30] Prolonged application of heat may overload an elderly patient's cardiovascular or pulmonary systems. Nonetheless, local heating may be useful for pain relief, to improve blood flow, and to accelerate a suppurative process. Moist heat (hydrocollator packs, hot towels) is preferable to dry heat provided by electric pad.

Cooling is helpful in reducing swelling, especially if it is inflammatory in nature, in producing analgesia, and may reduce spasticity. The only contraindications to cooling are hypersensitivity to cold, Raynaud's phenomenon, previous frostbite, cryoglobulinemia, and paroxysmal cold hemoglobinuria.[1]

TENS also can be useful for pain control, especially when combined with other therapies.[31] Patients with neurogenic pain, cancer pain, arthritis, and musculoskeletal pain syndromes have found partial to nearly complete relief with TENS, though there is a tendency for this relief to wane with time.

Assistive Devices

While comprehensive review of assistive devices and adaptive equipment is beyond the scope of this article, a brief listing may familiarize the provider with some basic and practical information.[32]

Canes are prescribed for those patients with minimal ait impairment and are probably the most commonly used ambulatory aid. However, patients often use canes incorrectly. The cane should always be placed in the hand contralateral to the affected lower extremity. This allows partial weight bearing relief, as the cane is in contact with the ground at the same time as the affected limb. The length of the cane should be checked to ensure comfort and efficiency. The cane is of a proper length when the elbow is flexed about 30 degrees with the cane tip 6 inches lateral to the forefoot. Canes may be used by patients who no longer need crutches because of improvement in strength and stability (for example, a patient recovering from hip arthroplasty). Four-footed canes (quadripod or "quad" canes often are useful in patients ecovering from strokes.

Walkers are helpful for those patients with moderate to marked instability, such as often occurs after a stroke. Attachments for the forearm may help patients with rheumatoid arthritis. Hemiwalkers are often used in stroke patients who cannot use the upper extremity on the affected side.

Crutches provide more complete relief of weight bearing than walkers (if used as a pair). Their use may be limited in the elderly by reduced upper-arm strength in some individuals and by limited sense of balance. Again, proper fitting is important. The elbow should be flexed at 30 degrees when the hand is on the grip, and there should be enough room between the top of the crutch and the axilla for two fingers. In addition to providing relief from weight bearing, crutches may be useful for patients with mild ataxia or neuromuscular weakness.

Assistive devices are not limited to ambulatory aids. Adaptive equipment has been developed to help the disabled to dress, eat, maintain personal hygiene, perform household chores, and enjoy sports. Long-handled shoe horns are an example of a simple device that may help a patient who has difficulty with flexion of the trunk or lower extremities.[1] Bathroom modifications such as a raised toilet seat, grab bar and shower chair will help ensure the safety and independence of an elderly stroke patient. A rocker knife with its sharp curved blade can help a hemiplegic or amputee patient cut food with only one hand, because the food is simultaneously cut and held in place by the knife's rocking motion. Occupational and physical therapists are invaluable resources for both patients and physicians for suggestions regarding adaptive equipment and ambulatory aids.

Conclusion

Rehabilitation can restore function and reduce dependence in the elderly. Efforts should start as soon as possible after the precipitating event, with emphasis on what the patient can do not on the disease. Because of the multiplicity of problems often present in the elderly, a team approach is very helpful. Comprehensive assessment, while not necessary in every case, can help the older patient with a multitude of problems to get the most from therapy. Age alone is never a contraindication to efforts at rehabilitation.

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Planning for Medical Decision Making: Living Wills and Durable Powers of Attorney

DIANE E. HOFFMAN JD, MS

The enactment of living will and durable power of attorney statutes in most states, including Maryland, provide individuals with a mechanism for setting forth their preferences for medical treatment in the event of their inability to make treatment decisions on their own behalf. Although still under used, these mechanisms are becoming more common, and physicians will be confronting them more frequently. The following overview of the Maryland Life Sustaining Procedures Act and the Durable Power of Attorney Act and discussion of their advantges and limitations is from the perspective of patients and their physicians.

At age 77, John Adams, a widower, was in a serious car ccident. His spinal cord was injured leaving him paralyzed from the neck down. He also suffered a head injury that left him unable to speak. Although he could hear and move his head, he did not appear to comprehend the questions posed to him and often did not recognize his friends or relatives. Unabe to care for himself, John was placed in a nursing home. Not long after he arrived at the home, John refused to accept food and seemed to have difficulty swallowing. The nursing home physician diagnosed John as having throat cancer. The physician told John's son, Mike, that there was a 60 percent chance he could successfully remove the cancerous tumor with surgery. Without the surgery the physician predicted John could live for six months, with the surgery his life would be extended two or three years. As the closest surviving relative, Mike was asked if he would consent to the operation. Mike was torn. He hated seeing his father this way, but he had no idea what his father would have wanted done under these circumstances.

This problem could have been avoided if John had set forth his wishes, in advance, regarding the type of medical intervention he would have wanted in such a situation. While many people make plans to protect their relatives financially in the case of their disability or death by purchasing insurance and preparing a will, few plan for the possibility of incompetence or inability to make medical decisions because of mental impairment or loss of consciousness.[1] Physicians can assist their patients in this type of planning by becoming familiar with the types of "advanced directives" now available for health care decision making and by asking their patients if they have made any provision for making medical decisions should they become incompetent.

This type of planning is important for at least three reasons. First, it ensures that the patient's own desires will be followed if and when the patient becomes incompetent. Second, it provides assistance to a patient's family members who are often left with the emotionally charged decisions regarding a loved one's health care. Third, it provides guidance to health care professionals who otherwise may be unsure if a particular course of treatment is what the patient would have wanted under the circumstances.

Until fairly recently, there was no assurance that even if one did specify guidelines for health care decision making in the event of incapacity that those guidelines would be followed. Physicians, uncertain of their own liability, were apprehensive about following such guidelines. Now, however, many states have adopted legislation that either immunizes health care providers from liability for complying with such guidelines or alternatively mandates that they follow such guidelines or face criminal or civil penalties.

This legislation includes two mechanisms for specifying advanced directives: the living will and the durable power of attorney. This article will discuss both of these mechanisms with a particular focus on Maryland law.

Living Wills

In general, a living will is a legally executed document that sets forth an individual's wishes not to receive "life prolonging" medical treatment in the event that the individual becomes incompetent to make treatment decisions on his or her own behalf and the individual has a "terminal condition."[2] Thirty-eight states and the District of Columbia now have "living will" statutes, or, as they are alternatively called, Natural Death Acts or Life Sustaining Procedures Acts. [1]

The Maryland Life Sustaining Procedures Act,[3] first enacted in 1985, is somewhat unique. It not only allows a legally competent individual to execute a declaration directing the withholding or withdrawal of life-sustaining procedures but also allows an individual to execute a declaration authorizing the initiation or continuation of such procedures. [2]

In Maryland, as in most states, any individual qualified to make a will may execute a living will, that is, the individual must be at least 18 years old and competent. The declaration must be voluntarily made. Furthermore, it must be written and signed by the person making it or by another in the presence and at the direction of the declarant. The signing must be attested to by at least two adult witnesses not closely related to

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the declarant by blood or marriage. To avoid conflicts of interest, a witness may not have any financial interest in the declarant or be responsible for the declarant's medical care or an employee of someone responsible for his/her medical care.

For the will to be effective, if the will is to request the withholding or withdrawal of treatment, the language of the document must be substantially similar to the language provided in the statutory form (see below). Furthermore, the declarant must provide a copy of the document to his or her attending physician. The physician, upon receipt, must place the document in the patient's medical records.

These are the necessary prerequisites for a valid living will. The document does not become effective, however, until the declarant becomes incapable of making medical decisions on his/her own behalf and two physicians who have personally examined the patient (one of whom is the patient's attending physician) certify the patient has a "terminal condition" and death is "imminent and will occur whether or not life-sustaining procedures are utilized."

Unless the attending physician knows or has a reasonable basis for believing that the declaration has been revoked, the physician is then responsible for im plementing the declaration. If, for some reason, the attending physician is unable to comply with the patient's requests as specified in the living will, the physician must make reasonable efforts to transfer the patient to another physician who will carry out the patient's wishes.

Under the Maryland statute, physicians who take actions based on a patient's living will must include a statement in the patient's medical record setting forth the basis for their belief that the patient had a valid and unrevoked living will. A copy of the will with a statement that the physician was not informed of any revocation would be sufficient. Likewise, physicians who fail to comply with a patient's living will because of knowledge or a belief that the will has been revoked must provide the basis for this knowledge or belief in the patient's chart. Although not specifically required by the statute, physicians who are unable to carry out the directions set forth in a living will because of ethical or other reasons should document their efforts to transfer the patient in the patient's medical record.

Physicians who in good faith comply with the directions of a patient as set forth in the patient's living will will not be civilly or criminally liable or subject to professional discipline for their actions. Physicians may, however, be

Statutory Form for a Living Will

DECLARATION

If at any time I should have an incurable injury, disease, or illness certified to be a terminal condition by two (2) physicians who have personally examined me, one (1) of whom shall be my attending physician, and the physicians have determined that my death is imminent and will occur whether or not life-sustaining procedures are utilized and where the application of such procedures would serve only to artificially prolong the dying process, I direct that such procedures be withheld or withdrawn, and that I be permitted to die naturally with only the administration of medication, the administration of food and water,* and the performance of any medical procedure that is necessary to provide comfort care or alleviate pain. In the absence of my ability to give directions regarding the use of such life-sustaining procedures, it is my intention that this declaration shall be honored by my family and physician(s) as the final expression of my right to control my medical care and treatment.

Declaration made this_____day of_____(month, year), I, _____, being of sound mind, willfully and voluntarily direct that my dying shall not be artificially prolonged under the circumstances set forth in this declaration.

I am legally competent to make this declaration, and I understand its full import.

Signed_____
Address_____

Under penalty of perjury, we state that this declaration was signed by_____in the presence of the undersigned who, at_____request, in presence, and in the presence of each other, have hereunto signed our names and witnessed this_____day_____of 19____ and declare: The declarant is personally known to me, and I believe the declarant to be of sound mind. I did not sign the declarant's signature to this declaration. Based upon information and belief, I am not related to the declarant by blood or marriage, a creditor of the declarant, entitled to any portion of the estate of the declarant under any existing testamentary instrument of the declarant, financially or otherwise responsible for the declarant's medical care, or an employee of any such person or institution.

_____Address_____
_____
_____Address_____
_____

*Although not part of this statutory form, if desired the following language may be added: *Notwithstanding the above statement, I direct that my life not be prolonged by the artificial administration of food and water.*

liable if they know of the existence of a living will and fail to comply with its directions or fail to make reasonable efforts to transfer the patient to another physician who will comply with the declaration.

Although the living will is a useful mechanism for patients to make clear their desires for medical treatment should they become incompetent and terminally ill, the mechanism as provided for in Maryland, has several shortcomings of which physicians should be aware. First, the statute is limited to patients who have a terminal condition and whose death is imminent. Although "imminent" is not defined by the statute, under a strict interpretation of the language, the statute would only apply to individuals whose death will occur in a relatively short time. Thus, the statute would not apply to patients in a persistent vegetative state or to elderly patients with numerous debilitating and chronic diseases who may live for years.

A second major limitation of the statute is its ambiguity regarding the withholding or withdrawal of food and water needed for patient comfort. Although the statutory form appears to prohibit the withholding or withdrawal of such sustenance, a separate section of the Act provides that the provisions of the Living Will law are "cumulative and may not be construed to impair or supercede any legal right or responsibility that any person may have to effect the initiation, continuation, withholding, or withdrawal of life sustaining treatment." [4] Based on the premise that a person has a constitutional right to refuse to consent to the insertion or continued presence of a feeding tube, in a recent opinion[4] the Maryland Attorney General has interpreted the law to provide that if a person so chooses, "he or she may incorporate in a living will an express, specific directive that artificially administered sustenance is not to be used when the person is terminally ill." Alternatively, if a person simply completes the statutory form, and makes no amendments to it, the opinion states "that person's living will is **not** sufficient to direct the withholding of artificially administered sustenance."

The result of this interpretation is consistent with the view of the Council on Ethical and Judicial Affairs of the American Medical Association. The Council has taken the position that life-prolonging medical treatment includes nutrition and hydration and may be withdrawn or withheld from a patient in an irreversible coma if the burden of such treatment outweighs the benefits.[1,5] Similarly, a recent AMA poll indicates that 78 percent of physicians favor the withdrawing of food or water from hopelessly ill or irreversibly comatose patients if they or their family request it.[6]

A third problem with the statute is that it does not specify under what circumstances a physician may refuse to comply with a living will and therefore transfer the patient. Nor does the statute specify what constitutes "reasonable efforts" to transfer or what the physician must do if he/she has attempted to transfer the patient but is unable to do so.

Durable Powers of Attorney

In light of the limitations on the use of the living will in Maryland, patients may want to consider the more flexible durable power of attorney. The Durable Power of Attorney (DPA) is a fairly recent innovation on the centuries-old legal instrument, the Power of Attorney. The Power of Attorney is simply a written authorization for someone to act as the agent of a principal for whatever purposes the principal sets forth in the writing.[7] The principal must be competent when he/she drafts the power of attorney and the power terminates when he/she becomes incompetent. In contrast, the DPA endures or begins when the principal becomes incompetent.

Although the DPA has been used most often for financial and property management, it is increasingly being used for medical decision making. All 50 states and the District of Columbia have enacted durable power of attorney legislation,[5,7] and at least eleven states have enacted durable power of attorney statutes that explicitly allow for medical decision making.

Although the Maryland DPA statute[8] is silent with regard to medical decision making, the Maryland Attorney General has interpreted the law to apply to decisions concerning medical treatment.[4]

To create a DPA in Maryland, an individual need only appoint an agent, set forth in writing what decisions the agent is authorized to make on the principal's behalf, and include in the writing the following or similar language:

> 1. This power of attorney shall not be affected by the disability of the principal, or
> 2. This power of attorney becomes effective upon the disability of the principal.[8]

In appointing an agent, individuals should avoid anyone with a possible conflict of interest. For this reason, physicians and other health care providers should not agree to serve as agents for their patients. Also, patients should be advised to specify more than one agent, in case of the death or incapacity of the agent initially selected.

There are no formal requirements for executing the DPA in Maryland, that is, the document need not be witnessed or notarized. However, because statutes in other states may require witnesses or notarization, these formalities are recommended so that the document would be valid outside of Maryland. Also, witnesses are

recommended so that they can testify as to the competence of the principal at the time of executing the power if it is ever questioned.

Thus, the Maryland DPA is a relatively simple document to execute and has a great deal of flexibility as an advanced planning tool for medical decision making. Individuals who want to insure that their medical treatment preferences are followed, however, must provide explicit instructions to their agents and may want legal and medical assistance in drafting a document that is likely to be honored by third parties.

Although the Maryland DPA statute does not explicitly provide health care providers with immunity from liability for complying with a patient's wishes as expressed by the patient's agent or proxy, physicians who comply with a DPA should be relatively insulated from liability. No health care provider to date has been held liable for treating a patient in accordance with a written directive signed by the patient. To the contrary, given the recent trend in the courts to recognize patient autonomy in these matters, physicians who knowingly take actions that are at odds with an explicit directive of the patient may be successfully sued for negligence or battery.[1]

If a physician is presented with a DPA by a patient prior to the patient's incapacity, the physician should discuss the document with the patient. Physicians who are willing to comply with the directive should include a copy of the document in the patient's medical record. Physicians who are uncomfortable with the directive should inform the patient so he or she has an opportunity to look for another physician or health care provider who will comply with the directive. Alternatively, if a physician is confronted with someone who claims to be an agent for the principal acting under the provisions of a DPA, the physician should request a copy of the DPA and place it in the patient's chart. Although not required by statute, if at that point, the physician determines that he/she could not comply with the agent's requests, the physician should attempt to transfer the patient to another physician who would comply.

In drafting a usable and effective DPA, principals may want to include language specifying when the power will go into effect. The general language that the power will be effective on the disability of the principal leaves much to be desired. A more useful directive would be one stating that the power will become effective when one or two physicians or psychiatrists, certify that the principal is no longer capable of making informed medical treatment decisions on his/her own behalf.

In addition, a principal should be explicit about the medical treatment decisions he or she wants to authorize. A decision based on a blanket authority to an agent to make all treatment decisions on behalf of the principal without specific guidance from the principal may not be valid if challenged. The decision made by the agent is much more likely to be upheld if it is one that the principal would have made or agreed with. Specific authorizations a principal may want to consider include the following:

- access to all medical records
- ability to employ or discharge medical providers or authorize admission to medical facilities
- ability to grant releases of liability to medical providers
- ability to make anatomical gifts
- ability to consent to measures for relief of pain
- specific wishes to initiate, continue, withhold or discontinue treatment, food and fluids or life-sustaining procedures under specified conditions[7]

The "open-endedness" of the DPA in Maryland offers individuals a great deal more flexibility than does the living will mechanism in drafting directives that closely fit the individual's preferences. The lack of statutory guidance, however, can result in questions about an individual's preferences. As a result, some state statutes provide sample language, such as the following, to assist principals articulate their preferences:

> If I suffer a condition from which there is no reasonable prospect of regaining my ability to think and act for myself, I want care directed to my comfort and dignity and I also want artificial nutrition and hydration if needed, but authorize my agent to decline all other treatment, the primary purpose of which is to prolong my life.[9]

These directives are a step in the right direction but leave much room for interpretation. The medical profession can assist patients be more specific in their directives by providing them with certain scenarios regarding terminal illnesses and medical interventions they might want to consider addressing. The more explicit the directive the easier it will be for family members and health care providers to decide how to treat a patient when he or she is unable to speak for himself or herself.

Conclusion

Recent legislation in Maryland and most other states now provides two statutory mechanisms for individuals to exercise their fundamental right to make their own health care decisions after they become incompetent: the living will and the durable power of attorney. Although these legislative initiatives are extremely important, they are but a first step in an area of law that is still

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evolving. So far, no Maryland courts have decided any cases under the state's Life Sustaining Procedures or Durable Power of Attorney Acts. Thus, several questions about the application and interpretation of the Acts remain unanswered. Despite these uncertainties, there is a trend nationwide to support and encourage the use of these advanced directives. Physicians can increase their use by educating themselves and informing their patients about them.

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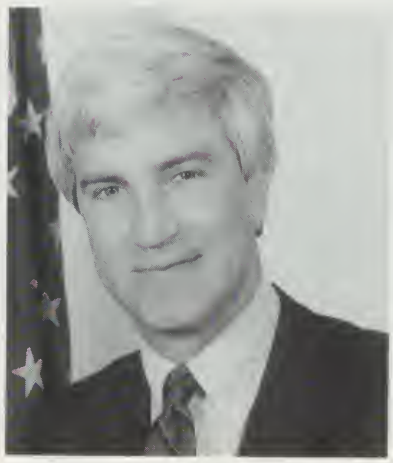
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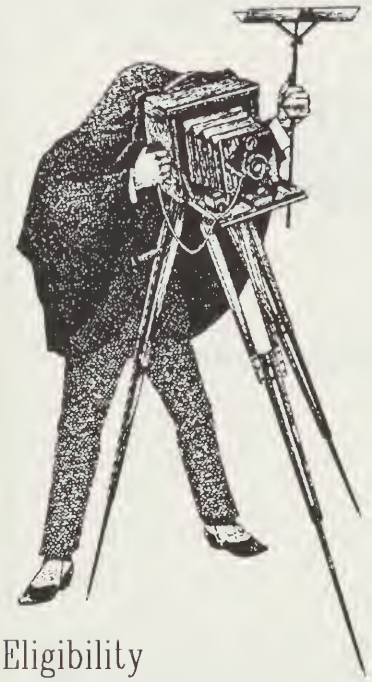
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6. Entries must be matted or dry mounted. No framed photographs will be accepted.

7. Photographs entered in the contest will be on display at the Annual Meeting in April of 1989.

8. Winners will be announced at the Annual Meeting of the Medical and Chirurgical Faculty, April 12 thru 14, 1989.

9. Photographs will NOT be mailed back. Photographs may be claimed at the exhibit area at the close of the Annual Meeting on Friday, April 14, at noon or at the Faculty Building thereafter.

10. The Faculty does not guarantee against loss or damage of any kind to the photographs submitted to the contest.

11. Prizes will be awarded to the FIRST AND SECOND place winners. Additional information about the prizes will be published in the Journal.

Board of Physician Quality Assurance Actions

In the Matter of
John J. Shigo MD
Before the
Maryland State Board of
Physician Quality Assurance

Findings of Fact,
Conclusions of Law, and Recommendation

Based on information received regarding the recent hospitalization of John J. Shigo MD (the Respondent), the Commission on Medical Discipline[1] (the Commission) ordered that the Respondent's license to practice medicine in the State of Maryland be summarily suspended. This order of June 21, 1988 further required the surrender of certain documents certifying the Respondent's entitlement to practice medicine in Maryland. He was also directed to submit to a psychiatric evaluation conducted by Jonas R. Rappeport MD. Finally, the Commission ordered that a hearing be held within thirty (30) days of the date on which the Commission received a written request for such a hearing from the Respondent. The Respondent's request for a hearing was received on July 1, 1988, and a hearing was held on July 14, 1988.

By letter dated August 25, 1988, Respondent's attorney was forwarded a copy of the Hearing Officer's proposed Findings of Fact, Conclusions of Law, and Recommendation (proposed order). Respondent chose not to except from the Hearing Officer's proposed order. On Wednesday, October 12, 1988, the Board of Physician Quality Assurance (the Board) considered the entire record and the Hearing Officer's proposed decision. By a unanimous vote of the Board members considering this case, the Board makes the following Findings of Fact, Conclusions of Law, and Order.[2]

Findings of Fact

1. Prior to June 21, 1988, the Respondent was engaged in the practice of medicine in the State of Maryland.
2. In March 1986, the Respondent's parents were found dead in their home as a result of accidental asphyxiation.
3. Since graduating from medical school in 1969, the Respondent has been married and divorced twice, the latest in 1987.
4. In 1985, following the Respondent's separation from his second wife, considerable and costly litigation ensued regarding a settlement agreement, child support and related matters.
5. In or about April 1987, the Respondent sought relief from the stress and pressures of domestic strife and litigation by giving up his medical practice of 16 years and moving to Bermuda for approximately two (2) months.
6. In or about July 1987, the Respondent returned to the Washington Metropolitan area and retook the family practice specialty medical board examinations.
7. After taking his specialty board examinations, the Respondent attended a medical meeting in India with his girlfriend.
8. The Respondent extended his stay in India to avoid the stress of litigation and further argument surrounding his divorce.
9. In September 1987, the Respondent returned to the United States and attended a California meeting of the American Academy of Family Practice.
10. In October 1987, the Respondent visited his daughter in Charleston, South Carolina.
11. While in Charleston, the Respondent was arrested on a fugitive warrant issued in Maryland because the child support arrearage.
12. Upon his return to Maryland, the Respondent was incarcerated for ten (10) days.
13. When released, the Respondent lived in an apartment constructed in a house jointly owned with Mr. J. P. Rickett CPA, Respondent's accountant.
14. Mr. Rickett and the Respondent had a business association with regard to the Respondent's medical practice in Bowie, Maryland.
15. The Respondent gave Mr. Rickett his general power of attorney under which Mr. Rickett had arranged for other physicians to manage the Respondent's medical practice in Bowie while he was away from the Washington Metropolitan area.
16. The Respondent did not return to his medical practice in Bowie because it appeared that some patients believed he had deserted them.
17. The Respondent then worked as a physician for Kaiser Permanente in Kensington, Maryland, but left the position after one (1) month because he believed there was inadequate staff support.
18. At that point, the Respondent felt anxious and depressed for a number of reasons. In addition to the recency of his parents' deaths, he had to go back to court for the final settlement of his divorce, he was in arrears on child support, he had given up a 16-year medical practice in Bowie, he did not want to go into court without a job, Mr. Rickett indicated he was "washed up" in Bowie and wanted him to take over a practice in Accoceek, and the Internal Revenue Service was investigating the withdrawal of funds from his pension plan.[3]

1. The Commission on Medical Discipline was the disciplinary authority for physicians in the State of Maryland prior to July 1, 1988. As of that date, the Board of Physician Quality Assurance assumed the powers and duties previously held by the Commission on Medical Discipline and the State Board of Medical Examiners.

2. Prior to the Board's considering the record, Respondent, through his attorney, agreed to be examined by Jonas R. Rappeport MD, and have the Board's Chair, Israel H. Weiner MD, report to the Board orally regarding Dr. Rappeport's finding. The Board considered this information.

3. The Respondent alleged that his former wife "embezzled" about $150,000 from his pension plan and that he had been providing her with $3,850 a month for support.

On instruction of the Council of the Medical and Chirurgical Faculty of the State of Maryland, "Findings of Fact, Conclusions of Law, and Order" will be published in the Maryland Medical Journal.

19. On or about January 21, 1988, at around 6:00 p.m., the Respondent was found unconscious in his home at 11800 Galaxy lane, Bowie, Maryland, by a friend. Four (4) syringes were found next to the Respondent.

20. The Respondent had attempted suicide by injecting significant quantities of Tramxene, Phenergan, and Demerol IV into his body.

21. On or about January 2 was transported via medic unit to Prince George's Hospital. Throughout the transport and upon his admittance to the Hospital's Emergency Room at approximately 10:17 p.m., the Respondent remained comatose, exhibited pinpoint pupils bilaterally, and was unresponsive to deep pain stimuli.

22. In connection with the Respondent's admission to Prince George's Hospital on or about January 21, 1988, a drug screen was performed from samples of his blood and urine. The drug screen was positive for benzodiazepines and opiates.

23. A physical examination of the Respondent upon admission to the hospital on or about January 21, 1988, revealed fresh multiple needle marks on bilateral antecubital fossae with related ecchymosis.

24. Upon Respondent's admission to Prince George's Hospital, his medical diagnosis was "drug overdose."

25. The Respondent remained a patient in Prince George's Hospital until his transfer to the Sheppard Pratt Hospital (hereinafter Sheppard Pratt) on January 26, 1988.

26. Sheppard Pratt is a private psychiatric hospital located in the State of Maryland.

27. At the time of the Respondent's transfer to Sheppard Pratt on January 26, 1988, the Patient Transfer Form listed his diagnoses as an overdose with opiates and benzodiazepines as well as an adjustment disorder with mixed reaction.

28. Upon the Respondent's transfer to Sheppard Pratt, Dr. Carl H. Keller, a Psychiatrist on staff at Prince George's Hospital, prepared a Discharge Summary. The Summary reveals that the Respondent "denied making a suicide attempt or that he wanted to die" and listed diagnosis of adjustment disorder and depressed mood.

29. While at Sheppard Pratt, Dr. Joseph Chambers of Physicians Rehabilitation contacted the Respondent and arranged for his therapy with Dr. Harvey Fernbach.

30. Upon release from Sheppard Pratt, the Respondent began treatment with Dr. Fernbach and also tried to open his own practice in Bowie.

31. Conflicts arose between the Respondent's girlfriend, who was acting as the office manager of the new practice, and Mr. Rickett. This conflict created more stress and anxiety for the Respondent.

32. In the interim, the local medical society required the Respondent to see Dr. Richard Anderson, a Baltimore psychiatrist.

33. Dr. Anderson opined that the Respondent's problems related to his relationship with and dependency on Mr. Rickett.

34. Thus, several major stressors were acting on the Respondent at that point: namely, his dependency on Mr. Rickett, who still had control of the Respondent's money; the slowness of the buildup of his medical practice; the conflict between his girlfriend and Mr. Rickett; and the girlfriend's threat to leave if the Respondent did not cut his ties with Mr. Rickett. The Respondent felt he was unable to get everything under control.

35. On or about May 10, 1988, the Respondent went into the garage of a friend he was staying with, started the car, put a blanket on the ground, took twenty-five (25) 25 mg Phenergan capsules and four(4) 15 mg Restoril tablets, ran around to quicken absorption of the medicine and then lay down next to the engine exhaust pipe. He started to choke, ran out of the garage and fell down on the lawn where his daughter found him.

36. On May 30, 1988, the Respondent was transported via medic unit from his friend's residence at 7000 Highbridge Road, Bowie, Maryland, to the AMI Doctors' Hospital of Prince George's (hereinafter Doctors' Hospital).

37. On May 30, 1988, at approximately 3:15 a.m. when admitted to Doctors' Hospital, the Respondent was comatose.

38. Upon the Respondent's admission through the emergency room of Doctors' Hospital, it was revealed that the Respondent was previously seen by a psychiatrist and experienced a prior drug overdose.

39. The Admission Note prepared at the time of the Respondent's admission to Doctors' Hospital listed the reasons for admission as an overdose of benzodiazepine and carbon monoxide poisoning.

40. The presence of benzodiazepine was noted in samples of the Respondent's blood and urine collected at the time of his admission on May 30, 1988.

41. When the Respondent was transferred to a private room at Doctors' Hospital on June 3, 1988, the physicians' orders contained instructions for a 24-hour sitter with the patient, either hospital or agency personnel.

42. Physicians' orders for the Respondent's care dated June 4, 1988, contained instructions to continue the 24-hour sitter and suicidal precautions.

43. During his hospitalization, the Respondent was referred to Dr. Gustave Weiland, a Board Certified Psychiatrist, who began Psychotherapy and continues to see the Respondent twice a week.

44. On or about June 21, 1988, the then-Commission on Medical Discipline, summarily suspended the Respondent's license to practice medicine in the State of Maryland, ordered that a hearing be held to consider the emergency suspension, and directed the Respondent to appear for a psychiatric evaluation by Jonas R. Rappeport MD. (See Commission's Order dated 21 June 1988).

45. The Respondent was interviewed and evaluated by Jonas R. Rappeport MD on July 11, 1988.

46. Dr. Rappeport stated that the Respondent suffers from a bi-polar disorder with two clear depressive episodes and possible hypomanic episodes. Dr. Rappeport also found that at the time, there was sufficient hypomania and evidence of poor judgment to cause him to believe the Respondent should not practice medicine at that time.

47. Dr. Rappeport stated that suspension of the Respondent's license on an emergency basis was appropriate and the justifying conditions continue to exist.

48. Dr. Rappeport expressed his professional opinion that the Respondent's license not be returned to him immediately, that he undergo a period of continued treatment, that he attempt to stabilize his life situation and finances before his license is returned, that when the Respondent returns to practice he should practice under the supervision of, or in relationship to, other physicians, not as a solo practitioner.

49. Dr. Rappeport stated further that the Respondent must remain under psychiatric care and take appropriate medications for at least another year, if not longer.

50. Finally, Dr. Rappeport testified that suspension of the Respondent's license could be removed in thirty(30) to sixty (60) days from July 14, 1988, provided the Respondent's other life situations or stressors have been appropriately reduced or eliminated.

51. The Respondent, via counsel, testified that the litigation surrounding his divorce settlement and child support has been finalized.

52. The Respondent has removed himself from the prior stressful living situation, had moved to another locale, and has broken his relationship with Mr. Rickett.

53. The Respondent has rented and moved into a townhouse in Georgetown and continues with psychiatric care including group therapy.

54. In this letter of June 28, 1988, Dr. Weiland stated that in his professional Judgment, the Respondent is well and able to practice medicine without any limitations.

55. On October 11, 1988, Dr. Rappeport examined Respondent and opined that Respondent could return to practice in a group setting if Respondent continues in the therapeutic relationship with Dr. Weiland.

Conclusions of Law

State Government Article 10-405(b), Annotated Code of Maryland, provides in pertinent part that a unit [of the State Government] may order summarily the suspension of a license if the unit:

> (1) finds that the public health, safety or welfare imperatively requires emergency action; and
> (2) promptly give the licensee:
> (i) written notice of the suspension, the findings, and the reasons that support the findings; and

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(ii) an opportunity to be heard.

Based on the above findings of fact, it is concluded that the public health, safety, and welfare required that Respondent's license be summarily suspended.

Order

Based on the Findings of Fact and Conclusions of Law, it is hereby ORDERED this 24th day of October 1988, that the Summary Suspension of Respondent's license to practice medicine is hereby STAYED, subject to Respondent's compliance with the following conditions:

1. Respondent shall remain in psychiatric care and comply with all recommendations of his therapist;
2. Respondent shall only practice medicine in conjunction with other licensed physicians in a practice setting approved by the Board;
3. The Respondent shall arrange for Respondent's therapist to submit written monthly reports to a representative of the Board[4] commencing one month after the date of this Order, indicating that Respondent is making satisfactory progress in dealing with the problems that led to his license being summarily suspended, the number of times a month Respondent is in therapy, any medications being taken, and whether Respondent is complying with all medical recommendations of the therapist;
4. The Respondent shall continue in therapy until the therapist certifies to the Board's representative in writing that the Respondent is discharged;
5. In the event that the Respondent terminates therapy prior to discharge by the Respondent's therapist, the therapist shall immediately notify the Board's representative that Respondent has left therapy without consent of the therapist;
6. The Board's representative shall prepare for Dr. Rappeport (or a Board approved psychiatrist) to review a summary of the therapist's reports (attaching the reports thereto) when Respondent petitions the Board for reinstatement of his license.
7. In the event that the therapist's reports indicate that Respondent is not complying with the therapist's recommendations, that Respondent has terminated therapy against the advice of his therapist, or that Respondent is a danger to himself or the public health, safety or welfare, the Board's representative will report IMMEDIATELY to the Board;

4. The Board's representative shall be Lex B. Smith, MD, 827 Park Avenue, Baltimore, MD 21201 (301-752-8822). The Board's representative shall be forwarded the following information in order to carry out his responsibilities to the Board: (1) the original Order summarily suspending Respondent's license; (2) the hearing officer's proposed decision together with supporting documentation and transcript thereof; and (3) Dr. Rappeport's evaluations.

8. In the event that the Board's representative does not receive the required reports, due starting on November 30, 1988, and due thereafter on the 30th of the month, until a year has passed from Respondent's approved employment commencing, the Board's representative will notify the Board within five (5) days of failing to receive the report;

9. In the event that Respondent moves permanently or temporarily, Respondent shall promptly notify the Board of Physician Quality Assurance in writing of Respondent's new address and telephone number during the probationary period;

10. The Respondent shall practice in accordance with the laws and regulations governing the practice of medicine in Maryland; and be it further

ORDERED one (1) year from the date the Board approves Respondent's job description, Respondent may petition the Board to remove any conditions of his license to practice medicine in Maryland. Prior to any decision being made by the Board on said petition, Respondent shall submit to an examination by Jonas R. Rappeport MD or another psychiatrist approved by the Board. At that time, if the Board determines that a vacating of the suspension would not be appropriate, the Board may impose other conditions. If the Respondent has complied with all conditions, and if there is no outstanding complaint against Respondent's practice, the Board will reinstate the Respondent's license without any conditions or restrictions whatsoever; and be it further

ORDERED that Respondent's license to practice medicine and his federal and state permits to prescribe controlled dangerous substances and legend drugs are restored, subject to the above conditions; and be it further

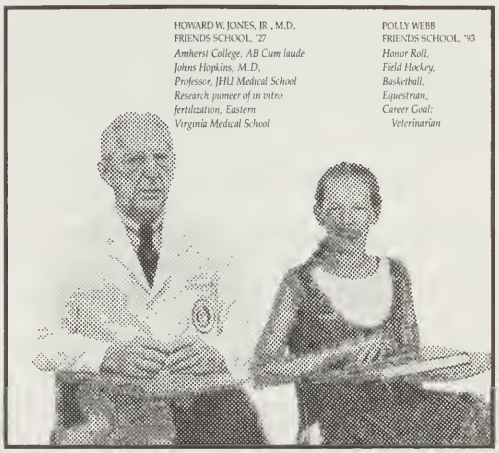
ORDERED that if the Board receives a report from Respondent's therapist or the Board's representative indicating that Respondent is a danger to himself or to the public safety, health, or welfare, or if Respondent has terminated therapy against the advice of his therapist, the Board, **WITHOUT PRIOR NOTICE AND AN OPPORTUNITY TO BE HEARD MAY LIFT THE STAY OF SUMMARY SUSPENSION OR RESPONDENT'S LICENSE,** provided that Respondent is given immediate notice of the charges and an opportunity for a hearing thirty (30) days after requesting same; and be it further

ORDERED that if Respondent violates any other term of this Order, the Board, after notice and a hearing, and a determination of violation, may lift the stay of **SUMMARY SUSPENSION** of Respondent's license or may impose any other disciplinary sanctions it deems appropriate, and be it further

ORDERED that this is a final order.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance

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MHIC #16069

In the Matter of
Jeffrey H. Schimandle, MD
Before the
Maryland State Board of
Physician Quality Assurance

Order for
Summary Suspension of
Registration to Practice Medicine

The Board of Physician Quality Assurance (the Board) herein sets forth the following background information as pertinent to the context in which the instant Order for Summary Suspension of Registration to Practice Medicine arises:

1. Based on certain information which came to its attention, the Commission on Medical Discipline of Maryland (now the Board of Physician Quality Assurance), pursuant to its authority under the State Government Article, 10-405(b), *Annotated Code of Maryland*, on June 21, 1988, summarily suspended Jeffrey H. Schimandle's MD (the Respondent) registration to practice medicine in Maryland.

2. On August 16, 1988, prior to any hearing or other disposition of the June 21, 1988 emergency order (the June 21 Order), the parties entered into a Consent Order which vacated the June 21 Order and reinstated Respondent's registration to practice medicine subject to certain conditions.

3. Two of the conditions Respondent was required to satisfy are set forth in Paragraphs 2 and 4 of the Consent Order as follows:

> 2. For a period of ninety (90) days beginning on the day that Respondent resumes work as a resident physician employed by the University of Maryland Hospital, Respondent shall not possess, dispense, use or provide to any person any controlled dangerous substances.
>
> 4. If a urine specimen tests positive as defined in the Protocol attached as Exhibit B or Respondent otherwise fails to comply with or violates any of the conditions upon his registration to provide requested urine specimens as set forth in paragraph 3 above and as more fully explained in the Protocol attached as Exhibit B, then the Board pursuant to its authority under State Government Article, 10-405(b), *Annotated Code of Maryland*, WITHOUT PRIOR NOTICE AND AN OPPORTUNITY TO BE HEARD, may immediately reinstate the Emergency Order with amendments, if necessary, summarily suspending Respondent's registration to practice medicine provided that Respondent is given notice of this action and an opportunity to be heard within thirty (30) days after Respondent requests the hearing.

4. The Consent Order, executed by the Respondent on August 18, 1988, provided, among other things, for the Respondent to supply random supervised urine samples four times a week for a period of 90 days for the purported purpose of establishing that Respondent was not taking for personal use controlled dangerous substances. The urine specimens were to be obtained pursuant to procedures set forth in the "Protocol" which was a part of the Consent Order.

5. The June 21 Order was based upon reports over a period of several months by nursing staff at different hospitals indicating the irregular handling of Demerol, a controlled dangerous substance, by the Respondent. However, at the time of the June 21 Order, there existed no direct evidence through a urine specimen that Respondent was ingesting or injecting Demerol for his own use. The June 21 Order is incorporated by reference herein.

6. In accordance with the Consent Order, the Board subsequently attempted to effectuate the drug testing protocol. During the period August 23, through and including November 14, 1988, 20 urine specimens were obtained. Because of difficulties in contacting Dr. Schimandle, urine specimens were not obtained on 17 days in which attempts were made to obtain urine specimens.

7. The urine specimen obtained on November 8, 1988 tested positive for normeperidine, a metabolite of meperidine (a/k/a Demerol).

Findings of Fact

Based on the background information set forth above, the Affidavits attached as Exhibits hereto and all other information known and available, the Board has reason to believe the following facts are true:

1. Respondent is an unlicensed medical practitioner who is registered with the Board through the University of Maryland Medical System residency program. Respondent is a third-year resident in orthopedic surgery at the University of Maryland Medical System.

2. On November 8, 1988, at 4:40 p.m., while in the course of his duties as a third-year resident, Respondent provided a specimen (the Specimen) as required by the Consent Order.

3. The circumstances and conditions under which the Specimen was obtained are set forth in the Affidavit of Leroy Jones, which is incorporated by reference herein.

4. The Specimen was subsequently tested by the Maryland Medical Laboratory, Inc., the designed testing facility, pursuant to the Protocol set forth in the Consent Order.

5. The Specimen tested positive as defined in the Protocol. The specimen contained normeperidine, a metabolite of meperidine (a/k/a Demerol).

6. The testing procedures utilized and the results obtained are more fully set forth in the Affidavit of Daniel S. Isenschmid, and the laboratory report attached thereto. The Affidavit of Daniel S. Isenschmid is incorporated by reference herein.

7. The presence of normedperidine in the Specimen is evidence that Respondent possessed and used a controlled dangerous substance in violation of the Consent Order.

8. Respondent's possession and use of a controlled dangerous substance (Demerol) while on duty as a resident at the University of Maryland Medical System poses a risk to the health, safety, and welfare of the general public, and, in particular, to patients for whom Respondent is responsible.

Conclusion of Law

Based on the foregoing facts, the Board finds that the public health, safety, and welfare imperatively requires emergency action in this case, pursuant to State Government Article, 10-405(b), *Annotated Code of Maryland*.

Order

It is this 16th day of November 1988 by the Board of Physician Quality Assurance

ORDERED that pursuant to the authority vested in the Board by State Government Article, 10-405 of the *Annotated Code of Maryland*, Respondent's registration to practice medicine in the State of Maryland at the University of Maryland Medical System is hereby **SUMMARILY SUSPENDED**; and be it further

ORDERED that a hearing to consider this emergency suspension shall be held before a hearing examiner, pursuant to State Government Article, Administrative Procedure Act, 10-207 within thirty (30) days of the date on which the Board receives a written request for such a hearing from the Respondent; and be it further

ORDERED that this is a **FINAL ORDER**.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance

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Precautions:
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- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%, usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
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- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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Members in the News

Steven J. Mason MD has been named director of the Cardiac Care Unit (CCU) at Franklin Square Hospital Center.

Dr. Mason has been associated with Franklin Square since 1986. He came to Baltimore from the Hospital of St. Raphael in New Haven, CN, where he was associate director of the CCU. While in New Haven, Dr. Mason served as assistant clinical professor of Internal Medicine at the Yale University School of Medicine.

A graduate of Williams College and the Harvard Medical School, Dr. Mason did his internship and residency at Beth Israel Hospital in Boston. He completed a clinical fellowship at Harvard and a research fellowship at the National Institutes of Health in Bethesda. Since coming to Baltimore, he has become an assistant professor of Medicine at The Johns Hopkins University School of Medicine.

• • •

James G. Zimmerly MD recently stepped down as Editor of the *Maryland Medical Journal* having guided the magazine for 11 years. He is succeeded by **Victor R. Hrehorovich MD**, who served with Dr. Zimmerly as the Associate Editor of *MMJ*

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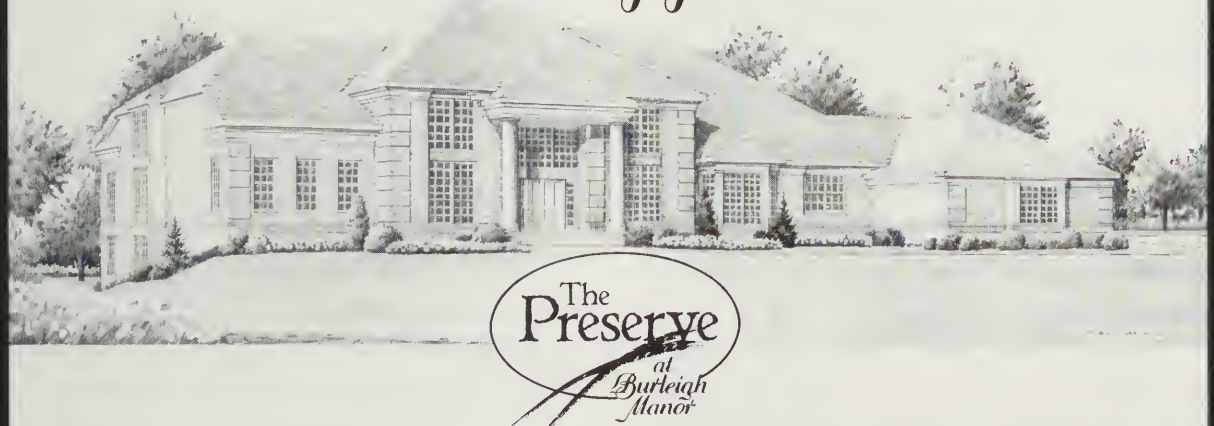
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The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

Feb 2-4 Sixteenth Annual Johns Hopkins Mason F. Lord Symposium on Geriatric Medicine. Fee: $300, $200 those in training; 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

Mar 6-8; Jun 19-21 An Advanced Pediatric Life Support Course. Fee: $445; 20 AMA Cat I credits. Enrollment will be limited. Info: C. Goodell 301-955-2959.

Mar 13-15 Spectrum of Developmental Disabilities XI - Dyslexia: Clinical and Research Issues, sponsored by the Society for Developmental Pediatrics, The Kennedy Fellows Association; The Kennedy Institute for Handicapped Children, and the Johns Hopkins Medical Insitutions. Fee: $350; 20 AMA Cat I credits, 20 Cat A credits for psychologists, 2.0 CEUs. Info: C. Kearney 301-955-2959.

Mar 16-18 PET: Imaging of Brain Chemistry with special emphasis on PET as a Clincal Tool in Neurology, Psychiatry, and Neurosurgery. Fee: $390 physicians, $290 residents; 14 AMA Cat I credits. Info: J. Liston 301-955-2959 or J. Buchanan 301-955-8582.

Apr 4-5 In Vitro Toxicology - New Directions. Fee: $250 before Mar 3, $300 thereafter; 14 AMA Cat I credits or 1.4 CEU. Info: C. Kearney 301-955-2959.

Apr 24-26 Toxicology Update '89: Current Concepts in Inhalation Toxicology. Fee: $450; *limited to 50.*

May 8-13 Topics in Clinical Medicine. Fee: $630 physicians, $450 residents/PAs and nurse practitioners; 40 AMA Cat I credits. Info: C. Kearney 301-955-2959.

Jun 4-16 Second Summer Institute in Environmental Health Studies, Department of Environmental Health Sciences. Info: J. Corn 301-955-2609.

Jun 11-15 VII ISIAN: International Symposium on Infection and Allergy of the Nose - Interational Rhinology Conference, Stoufffer Harborplace Hotel, Baltimore. Fee: before Feb 1 - $425 physicans, $300 residents & fellows, thereafter - $475 physicians, $350 residents & fellows; AMA Cat I credit will be available. Info: Congress Secretariat 302-955-2959.

Jun 30 The Retinal Vascular Center 19th Anniversary Meeting - Macula, The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

30th Annual Postgraduate Institute for Pathologists in Clinical Cytopathology, solely for Board Certified (or qualified) pathologists as a subspecialty residency. 152 AMA Cat I credits in two courses, **both of which must be taken.**

Application and preregistration advised ASAP: preregistration must be completed **before Mar 24, 1989,** unless by special arrangement. Info: J.K. Frost MD, 604 Pathology Bldg, The Johns Hopkins Hospital, Baltimore, MD 21205 USA.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: May 8-12, Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Advanced Obstetrics and Gynecology. Fee: $325; 24 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA CAt I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

• • •

University of Maryland School of Medicine

CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956).

Feb 23 Dean's Conference #6: TBA, UMAB. Fee: $25.

Mar 3-4 Third Symposium on Urologic Cancer and Surgery, Omni International Hotel, Baltimore. Fee: $175; 10 AMA Cat I credits.

Feb 25 Brief Psychotherapy: A Developomental Approach, UMAB. Fee: $100; 7 AMA Cat I credits. *Limited to 25.*

Mar 3-4 Third Symposium on Urolotic Cancer and Surgery, Harbor Court Hotel, Baltimore. Fee: $175; 10 AMA Cat I credits.

Mar 23 Dean's Conference #7: Preventive and Family Medicine, UMAB. Fee: $25; 5.5 AMA Cat I credits.

Apr 26 Dean's Conference #8: Topics in Surgery, UMAB. Fee: $25; 5.5 AMA Cat I credits.

May 5 Ninth Annual Albraham H. Finkelstein Memorial Lecture, Davidge Hall (22 S. Greene St., Bal-

timore), 1:30 p.m. Reception to follow. Approved for CME credit.

May 5-6 Second Symposium on Current Practices and Concepts in Endocrinology and Metabolism, Harbor Court Hotel, Baltimore. Fee and credits TBA.

Jun 1-4 Second Annual Trauma Anesthesia and Critical Care Symposium, sponsored by the Maryland Insitute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Development, 11 South Paca St. - Ste 303, Baltimore, MD 21201 (301-328-2399).

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Direct all inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Feb 16-17 - Provider
Mar 8-10 - Provider
Apr 13-14 - Provider
May 18-19 - Provider
Jun 15-16 - Provider
Jul 13-14 - Provider
Aug 17-18 - Provider
Sep 13-15 - Instructor
Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider

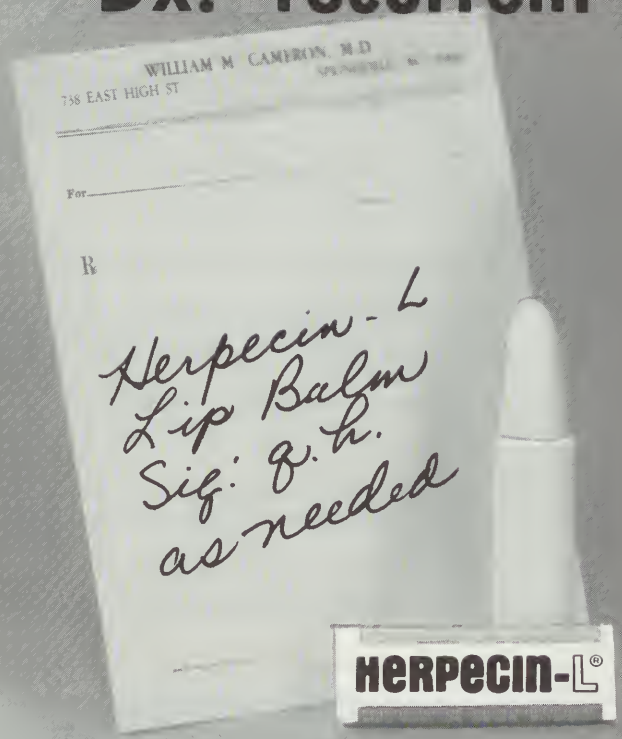
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Miscellaneous Meetings

Feb 3-5 Advanced Trauma Life Support Instructor Course, Washington, DC. American College of Surgeons DC Committee on Trauma. Fee: $600; 26 Cat I credits. Info: D. Soto 202-784-2074.

Feb 3 Neurological Diagnosis in Psychiatry, noon - 1:15 p.m.(lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge; *registration required, limited to 75.* 202-965-8220.

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Mar 3 Treatment Resistant Depression, noon - 1:15 p.m. (lunch provided), Psychiatric Insitute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge; *registraton required, limited to 75.* 202-965-8220.

Mar 6-8 NIH Consensus Development Conference: Therapeutic Endoscopy and Bleeding Ulcers, Warren Grant Magnuson Clinical Center, NIH, Bethesda. CME credit offered. Info: Endoscopy, Office of Medical Applications of Research, NIH, Bldg 1, Rm 216, 9000 Rockville Pike, Bethesdsa, MD 20892.

Mar 31 - Apr 2 Sixth Annual Greenbrier Psychopharmacologic Symposium, sponsored by the Psychiatric Institute of Washington, at The Greenbrier, White Sulphur Springs, WV. Fee: $270 each, $430 per couple (each attending symposium); $160 students, interns, and residents (documentation requested). Info: A. Cannamela 202-965-8450.

Mar 31 - Apr 2 Symposium: Psychiatry '89, Past Reflections - Future Visions, Stouffer Inner Harbor Hotel, Baltimore, sponsored by Taylor Manor Hospital. Info: 301-465-3322.

Apr 7 White House Cases - The Prediction of Violence in Paranoid Schizophrenics, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

Apr 12-16 Third Annual Course in Critical Care Medicine, Center for Bio-Medical Communication in cooperation with Dept of Critical Care Medicine NIH, to be held at Crowne Plaza Hotel in Rockville, MD. Fee: $595 before Feb 1, $695 thereafter; reduced rates available to physicians-in-training and allied professionals. Info: S. Lisanti, Center for Bio-Medical Communication, 491 Grand Ave, Englewood, NJ 07631 (201-385-1808).

Apr 17-19 Oral Complication of Cancer Therapies: Diagnosis, Prevention, and Treatment, NIH Consensus Development Conference, Masur Aduditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

Apr 20-22 Annual Meeting, The Virginia Society of Otolaryngology-HNS, The Tides Inn, Irvington, VA. Info: jD. Strawderman 804-353-2721.

May 5 Brief Topics in Chemical Dependency, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

May 8-10 Sunlight, Ultraviolet Radiation, and the Skin, NIH Consensus Development Conference, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

Temple University Winter Weekend Medical Conferences, Timberline Ski Resort, Canaan Valley, Davis, WV. Fee: $125 physicians, $75 residents/nurses; 8 AMA Cat I credits. Info: K. Saumure 215-387-3685.

Feb 3-5 Diagnosis and Management of the Ischemic Extremity

Feb 10-12 Physician Update on Cancer, AIDS, and Liver Disease

Feb 17-19 Diabetes Update

Feb 24-26 Lasers in Medical Practice

Mar 3-5 Venous Insufficiency of the Lower Extremity

Mar 10-12 Advances in Cardiology/Cardiothoracic Surgery

Mar 17-19 Advances in Internal Medicine.

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MRI UPDATE

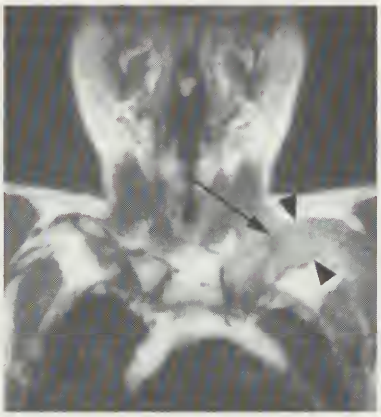


Figure 1

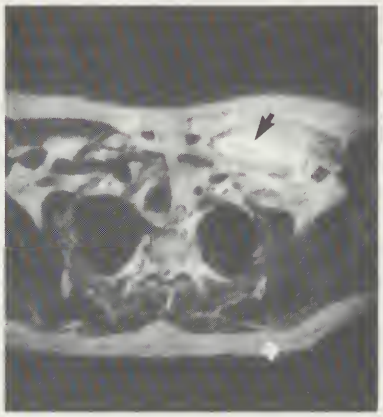


Figure 2



Figure 3

HISTORY: This patient is a 45 year old male who, on minor trauma, felt a popping sensation in his left sterno-clavicular region. Diffuse swelling developed and progressed down the left anterior chest wall over the next few weeks. A CT scan demonstrated a fracture of the midportion of the clavicle with minimal asymmetry of the soft tissues.

MRI FINDINGS:

Coronal images demonstrated disruption of the midportion of the left clavicle (Fig. 1, long arrow) with intermediate signal intensity material extending into the adjacent muscles (arrowheads). Transverse T2 weighted images (Fig. 2) show an area of increased signal intensity in the region of the clavicular fracture with extensive intermediate signal intensity material extending into the surrounding muscles. The high signal area most likely represents a hematoma surrounding the fracture (short arrow). The more diffuse intermediate signal represents diffused blood and/or edema in the surrounding muscles. T1 weighted images (Fig. 3) demonstrated low signal in the region of the clavicle near the sternoclavicular joint (small arrow, compare to high signal of right clavicle, arrowhead). The low signal indicates a bone marrow replacing process. Given the history of fracture following minor trauma, low signal intensity within the left clavicle increases suspicion of underlying malignancy rather than post traumatic edema. Biopsy showed undifferentiated carcinoma.

MRI HIGHLIGHTS:

While the fracture and minimal asymmetry of the soft tissues can be identified on the CT scan, this case illustrates the superior soft tissue contrast differentiation of MRI. Changes that are difficult to appreciate on the CT scan become obvious on MRI, which is rapidly becoming the method of choice for evaluating occult soft tissue abnormalities.

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Contraindications: VASOTEC® (Enalapril Maleate, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been usetul in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See AOVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the tirst dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are tollowed; caution should be observed when initiating therapy. (See DOSAGE AND AOMINISTRATION.) Patients at risk tor excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion ot any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and AOVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in supine position and, if necessary, receive an intravenous intusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without ditticulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases ot neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring ot white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence ot inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first tew weeks ot therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Oosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See OOSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors tor the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the first few days ot therapy. It actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, tever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This intormation is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and OOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence ot clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Theretore, it concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation ot both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy—Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies in pregnant women. VASOTEC® (Enalapril Maleate, MSO) should be used during pregnancy only it the potential benefit justities the potential risk to the fetus.

Nursing Mothers: Milk in lactating rats contains radioactivity following administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for satety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 298/ patients.

Hypertension: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

Heart Failure: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (79%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial intarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE ANO ADMINISTRATION), prostate hypertrophy.

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause tor discontinuation of therapy in 1.9% ot patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% ot patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations ot liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Oosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. It blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose of enalapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management ot the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Oosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart failure patients with hyponatremia (serum sodium <130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE ANO ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of tour days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

For more detailed information, consult your MSD representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486. J6VS18R(815)

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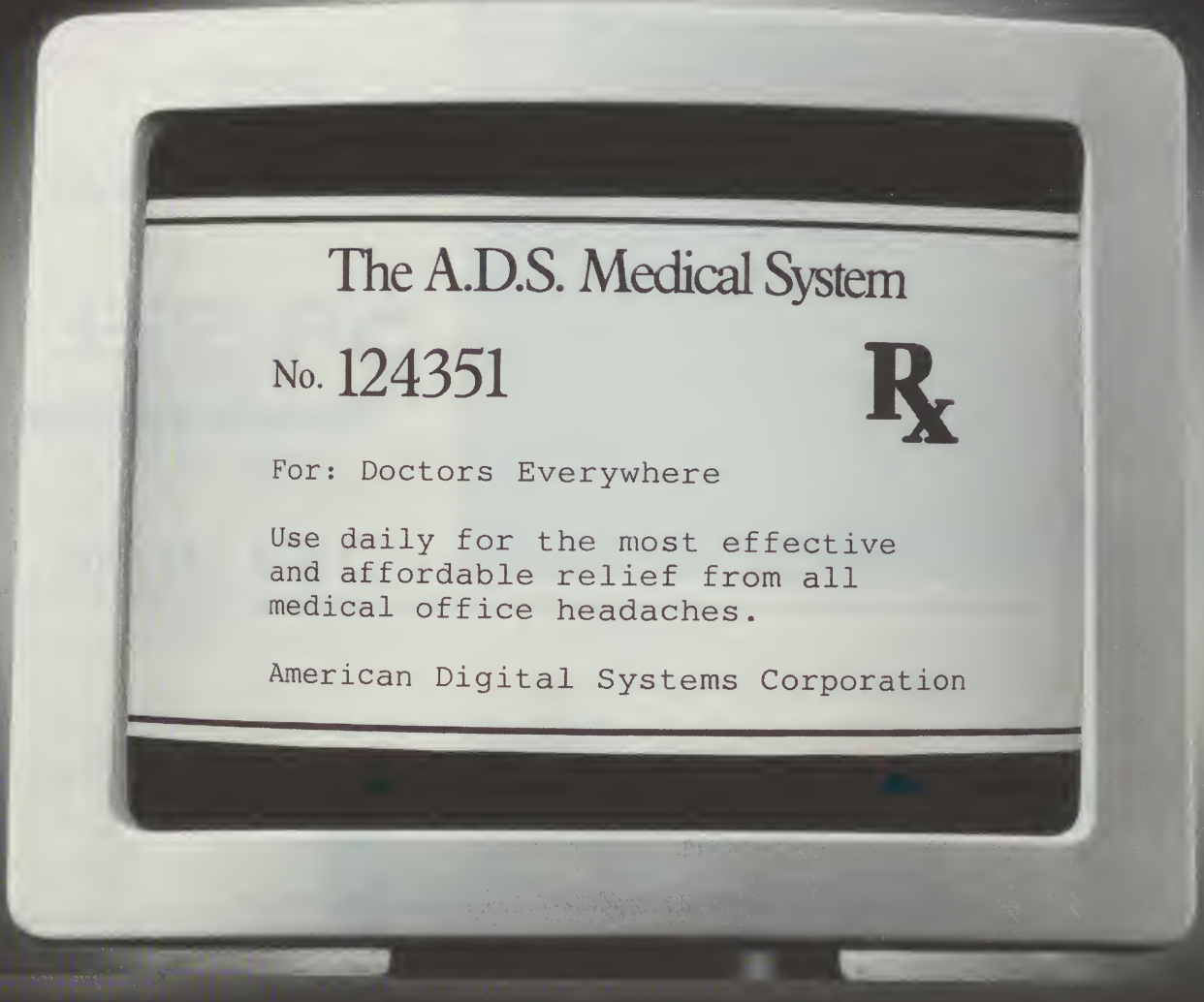
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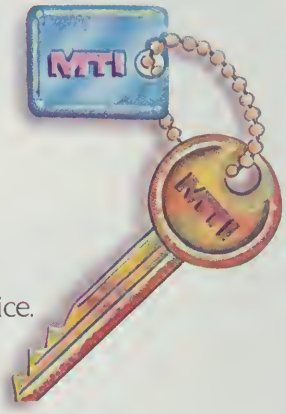
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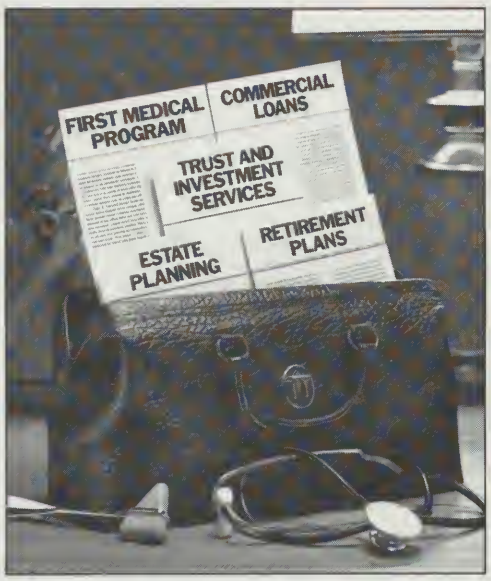


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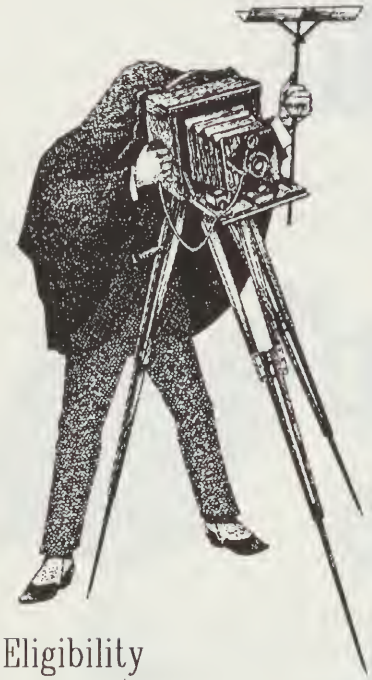
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Contest Rules

1. Photographs may be submitted in two categories-- Black and White or Color.

2. Limit: three entries per person

3. Entries must have name address, and telephone number attached to the back of each photograph.

4. Prints only, no smaller than 8x10 or larger than 11x14, will be accepted. If your favorite shot is a slide, you must have a print made to enter in the contest within these size ranges.

5. Entries may be mailed or brought to the Faculty Office, 1211 Cathedral Street, Baltimore, Maryland 21201 by the close of the business day on March 15, 1989.

6. Entries must be matted or dry mounted. No framed photographs will be accepted.

7. Photographs entered in the contest will be on display at the Annual Meeting in April of 1989.

8. Winners will be announced at the Annual Meeting of the Medical and Chirurgical Faculty, April 12 thru 14, 1989.

9. Photographs will NOT be mailed back. Photographs may be claimed at the exhibit area at the close of the Annual Meeting on Friday, April 14, at noon or at the Faculty Building thereafter.

10. The Faculty does not guarantee against loss or damage of any kind to the photographs submitted to the contest.

11. Prizes will be awarded to the FIRST AND SECOND place winners. Additional information about the prizes will be published in the Journal.

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EPIDEMIOLOGY AND DISEASE CONTROL NEWSLETTER
COMMUNITY HEALTH SURVEILLANCE ADMINISTRATION
Maryland State Department of Health and Mental Hygiene

201 W. Preston Street/Baltimore, Maryland 21201/(301) 225-6700

MARCH 1989

DRUGS FOR TREATMENT OF PARASITIC INFECTIONS

Infection	Drug	Adult Dosage*	Pediatric Dosage*
AMEBIASIS (Entamoeba histolytica)			
asymptomatic			
Drug of choice:	Iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
Alternatives:	Diloxanide furoate[2]	500 mg tid x 10d	20 mg/kg/d in 3 doses x 10d
	Paromomycin	25-30 mg/kg/d in 3 doses x 7d	25-30 mg/kg/d in 3 doses x 7d
mild to moderate intestinal disease			
Drugs of choice:	Metronidazole[3,4]	750 mg tid x 10d	35-50 mg/kg/d in 3 doses x 10d
	followed by iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
Alternative:	Paromomycin	25-30 mg/kg/d in 3 doses x 7d	25-30 mg/kg/d in 3 doses x 7d
severe intestinal disease			
Drugs of choice:	Metronidazole[3,4]	750 mg tid x 10d	35-50 mg/kg/d in 3 doses x 10d
	followed by iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
Alternatives:	Dehydroemetine[2,5]	1 to 1.5 mg/kg/d (max. 90 mg/d) IM for up to 5d	1 to 1.5 mg/kg/d (max. 90 mg/d) IM in 2 doses for up to 5d
	followed by iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
	OR Emetine[5]	1 mg/kg/d (max. 60 mg/d) IM for up to 5d	1 mg/kg/d in 2 doses (max. 60 mg/d) IM for up to 5d
	followed by iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
hepatic abscess			
Drugs of choice:	Metronidazole[3,4]	750 mg tid x 10d	35-50 mg/kg/d in 3 doses x 10d
	followed by iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
Alternatives:	Dehydroemetine[2,5]	1 to 1.5 mg/kg/d (max. 90 mg/d) IM for up to 5d	1 to 1.5 mg/kg/d (max. 90 mg/d) IM in 2 doses for up to 5d
	followed by chloroquine phosphate	600 mg base (1 gram)/d x 2d, then 300 mg base (500 mg)/d x 2-3 wks	10 mg base/kg (max. 300 mg base)/d x 2-3 wks
	plus iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
	OR Emetine[5]	1 mg/kg/d (max. 60 mg/d) IM for up to 5d	1 mg/kg/d (max. 60 mg/d) IM in 2 doses for up to 5d
	followed by chloroquine phosphate	600 mg base (1 gram)/d x 2d, then 300 mg base (500 mg)/d x 2-3 wks	10 mg base/kg (max. 300 mg base)/d x 2-3 wks
	plus iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
AMEBIC MENINGOENCEPHALITIS, PRIMARY			
Naegleria sp			
Drug of choice:	Amphotericin B[6,7]	1 mg/kg/d IV, uncertain duration	1 mg/kg/d IV, uncertain duration
Acanthamoeba sp			
Drug of choice:	see footnote 8		

* The letter d indicates day

1. Dosage and duration of administration should not be exceeded because of possibility of causing optic neuritis; maximum dosage is 2 grams/day
2. In the USA, this drug is available from the CDC Drug Service, Centers for Disease Control, Atlanta, Georgia 30333; telephone: 404-639-3670 (evenings, weekends, and holidays: 404-639-2888).
3. Metronidazole is carcinogenic in rodents and mutagenic in bacteria, it should generally not be given to pregnant women, particularly in the first trimester.

Infection	Drug	Adult Dosage*	Pediatric Dosage*
Ancylostoma duodenale, see HOOKWORM			
ANGIOSTRONGYLIASIS			
Angiostrongylus cantonensis			
Drug of choice:	Mebendazole[7,9,10]	100 mg bid x 5d	100 mg bid x 5d for children >2 years
Angiostrongylus costaricensis			
Drug of choice:	Thiabendazole[7,9]	25 mg/kg tid x 3d[11] (max. 3 grams/day)	25 mg /kg tid x 3d[11] (max. 3 grams/day)
OR	surgical intervention		
ANISAKIASIS (Anisakis sp)			
Treatment of choice:	Surgical removal		
ASCARIASIS (Ascaris lumbricoides, roundworm)			
Drug of choice:	Mebendazole	100 mg bid x 3d	100 mg bid x 3d for children >2 years
OR	Pyrantel pamoate	11 mg/kg once (max. 1 gram)	11 mg/kg once (max. 1 gram)
Alternative:	Piperazine citrate	75 mg/kg (max. 3.5 grams)/d x 2d	75 mg/kg (max. 3.5 grams)/d x 2d
BABESIOSIS (Babesia sp)			
Drugs of choice:[12]	Clindamycin[7]	1.2 grams bid parenteral or 600 mg tid oral x 7d	20-40 mg/kg/d in 3 doses x 7d
	plus quinine	650 mg tid oral x 7d	25 mg/kg/d in 3 doses x 7d
BALANTIDIASIS (Balantidium coli)			
Drug of choice:	Tetracycline[7]	500 mg qid x 10d	10 mg/kg qid x 10d (max. 2 grams/d)
Alternatives:	Iodoquinol[1,7]	650 mg tid x 20d	40 mg/kg/d in 3 doses x 20d
	Metronidazole[3,7]	750 mg tid x 5d	35-50 mg/kg/d in 3 doses x 5d
BLASTOCYSTIS hominis infection			
Drug of choice:	Iodoquinol[1]	650 mg tid x 20d	30-40 mg/kg/d in 3 doses x 20d
OR	Metronidazole[3,7]	750 mg tid x 10d	35-50 mg/kg/d in 3 doses x 10d
CAPILLARIASIS (Capillaria philippinensis)			
Drug of choice:	Mebendazole[7]	200 mg bid x 20d	200 mg bid x 20d
Alternative:	Thiabendazole[7]	25 mg/kg/d x 30d	25 mg/kg/d x 30d
Chagas' disease, see TRYPANOSOMIASIS			
Clonorchis sinensis, see FLUKE infection			
CRYPTOSPORIDIOSIS			
Cryptosporidium sp			
Drug of choice:[13]	Spiramycin	1 gram tid PO x 14d or more	
CUTANEOUS LARVA MIGRANS (creeping eruption)			
Drug of choice:	Thiabendazole	25 mg/kg bid (max. 3 grams/d) x 2-5d and/or topically	25 mg/kg bid (max. 3 grams/d) x 2-5d and/or topically
Cysticercosis, see TAPEWORM infection			
DIENTAMOEBA fragilis infection			
Drug of choice:	Iodoquinol[1]	650 mg tid x 20d	40 mg/kg/d in 3 doses x 20d
OR	Tetracycline[7]	500 mg qid x 10d	10 mg/kg qid x 10d (max. 2 grams/d)
OR	Paromomycin	25-30 mg/kg/d in 3 doses x 7d	25-30 mg/kg/d in 3 doses x 7d
Diphyllobothrium latum, see TAPEWORM infection			
DRACUNCULUS medinensis (guinea worm) infection			
Drug of choice:	Metronidazole[3,7]	250 mg tid x 10d	25 mg/kg/d (max. 750 mg/d) in 3 doses x 10d
Alternative:	Thiabendazole[7]	25-37.5 mg/kg bid x 3d[11]	25-37.5 mg/kg bid x 3d[11]
Echinococcus, see TAPEWORM infection			
Entamoeba histolytica, see AMEBIASIS			
ENTAMOEBA polecki infection			
Drugs of choice:	Metronidazole[3,7]	750 mg tid x 10d	35-50 mg/kg/d in 3 doses x 10d
	followed by		
	diloxanide furoate[2]	500 mg tid x 10d	20 mg/kg/d in 3 doses x 10d
ENTEROBIUS vermicularis (pinworm) infection			
Drug of choice:	Pyrantel pamoate	a single dose of 11 mg/kg (max. 1 gram); repeat after 2 weeks	A single dose of 11 mg/kg (max. 1 gram); repeat after 2 weeks
OR	Mebendazole	A single dose of 100 mg; repeat after 2 weeks	A single dose of 100 mg for children >2 years; repeat after 2 weeks
Fasciola hepatica, see FLUKE infection			

4. Outside the USA, ornidazole and tinidazole are also used.
5. Dehydroemetine is probably as effective and probably less toxic than emetine. Because of its toxic effects on the heart, patients receiving emetine should have electrocardiographic monitoring and should remain sedentary during therapy.
6. One patient with a Naegleria infection was successfully treated with amphotericin B, miconazole, and rifampin (JS Seidel et al, N Engl J Med, 306:346, 1982).
7. Considered an investigational drug for this condition by the U.S. Food and Drug Administration.

Infection	Drug	Adult Dosage*	Pediatric Dosage*
FILARIASIS			
Wuchereria bancrofti, Brugia (W.) malayi, Mansonella ozzardi, Loa loa			
Drug of choice:[14]	Diethylcarbamazine[15]	Day 1: 50 mg, oral, p.c. Day 2: 50 mg tid Day 3: 100 mg tid Days 4 through 21: 2 mg/kg tid	Day 1 : 25-50 mg Day 2: 25-50 mg tid Day 3: 50-100 mg tid Days 4 through 21: 2 mg/kg tid
Mansonella perstans			
Drug of choice:[16]	Mebendazole[7]	100 mg bid x 30d	
Tropical eosinophilia			
Drug of choice:	Diethylcarbamazine	2 mg/kg tid x 7-10d	2 mg/kg tid x 7-10d
Filariasis			
Onchocerca volvulus			
Drug of choice:	Ivermectin[7,17]	150 μg/kg PO once, repeated every 6 to 12 months	150 μg/kg PO once
Alternatives:	Diethylcarbamazine[15]	25 mg/d x 3d, then 50 mg/d x 5d, then 100 mg/d x 3d, then 150 mg/d x 12d	0.5 mg/kg tid x 3d (max. 25 mg/d), then 1.0 mg/kg tid x 3-4d (max. 50 mg/d), then 1.5 mg/kg tid x 3-4d (max. 100 mg/d), then 2.0 mg/kg tid x 2-3 wks
	followed by suramin[2,18]	100-200 mg (test dose) IV, then 1 gram IV at weekly intervals x 5 wks	10-20 mg (test dose) IV, then 20 mg/kg IV at weekly intervals x 5 wks
FLUKE, hermaphroditic, infection			
Clonorchis sinensis (Chinese liver fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 2d	25 mg/kg tid x 2d
Fasciola hepatica (sheep liver fluke)			
Drugs of choice:[19]	Bithionol[2]	30-50 mg/kg on alternate days x 10-15 doses	30-50 mg/kg on alternate days x 10-15 doses
Fasciolopsis buski (intestinal fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 1d	25 mg/kg tid x 1d
OR	Niclosamide[7]	a single dose of 4 tablets (2 g) chewed thoroughly	11-34 kg: a single dose of 2 tablets (1g) >34 kg: a single dose of 3 tablets (1.5 g)
Alternative:	Tetrachloro-ethylene[20]	0.1 ml/kg (max. 5 ml)	0.1 ml/kg (max. 5 ml)
Heterophyes heterophyes (intestinal fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 1d	25 mg/kg tid x 1d
Metagonimus yokogawai (intestinal fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 1d	25 mg/kg tid x 1d
Opisthorchis viverrini (liver fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 1d	25 mg/kg tid x 1d
Paragonimus westermani (lung fluke)			
Drug of choice:	Praziquantel[7]	25 mg/kg tid x 2d	25 mg/kg tid x 2d
Alternative:	Bithionol[2]	30-50 mg/kg on alternate days x 10-15 doses	30-50 mg/kg on alternate days x 10-15 doses
GIARDIASIS (Giardia lamblia)			
Drug of choice:	Quinacrine HCl	100 mg tid p.c. x 5d	2 mg/kg tid p.c. x 5d (max. 300 mg/d)
Alternatives:	Metronidazole[3,4,7]	250 mg tid x 5d	5 mg/kg tid x 5d
	Furazolidone	100 mg qid x 7-10d	1.25 mg/kg qid x 7-10d
GNATHOSTOMIASIS (Gnathostoma spinigerum)			
Treatment of choice:	Surgical removal		
OR	Mebendazole[7,21]	200 mg q3h x 6d	

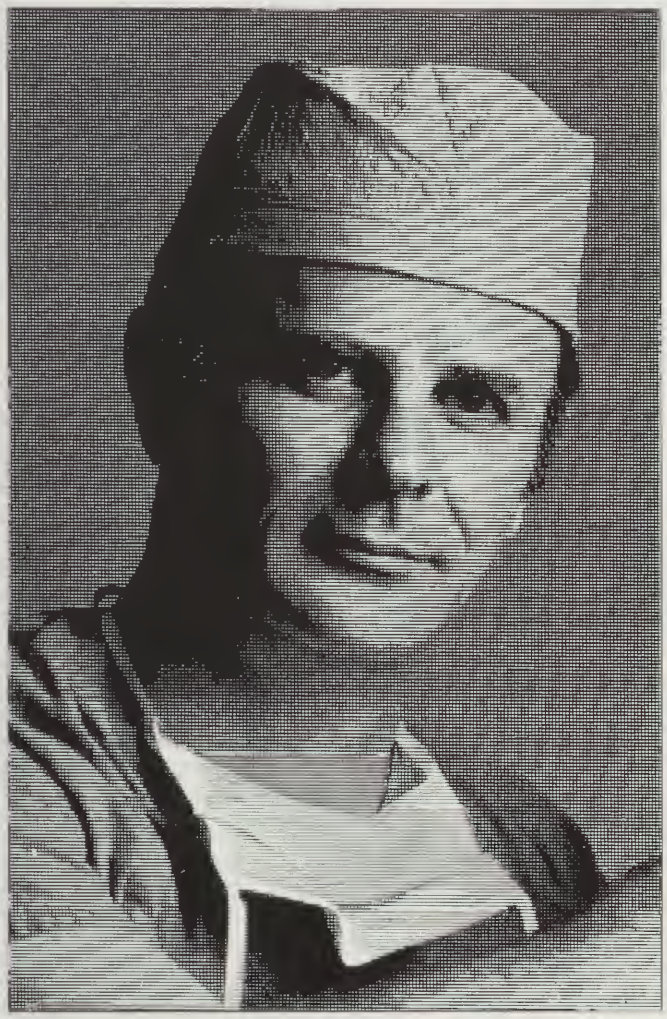
8. Experimental infections with Acanthamoeba sp. have been reported to respond to sulfadiazine (CG Culbertson, Annu Rev Microbiol, 25:231, 1971). Amebic keratitis due to Acanthamoeba sp. has been reported to respond to topical miconazole, propamidine isethionate, and antibiotics (MB Moore et al, Am J Ophthalmol, 100:396, 1985).
9. Effectiveness documented only in animals
10. Analgesics, corticosteroids, and careful removal of CSF at frequent intervals can relieve symptoms. Albendazole and ivermectin have been used successfully in animals.
11. This dose is likely to be toxic and may have to be decreased.
12. Concurrent use of pentamidine and trimethoprim-sulfamethoxazole has been reported to cure an infection with B. divergens (D Raoult et al, Ann Intern Med, 107:944, 1987).
13. Limited clinical results suggest a decrease in diarrhea with therapy. Infection is self-limiting in immunocompetent patients.
14. Several reports indicate that ivermectin may be effective for treatment of W. bancrofti (S Diallo et al, Lancet, 1:1030, 1987) and M. ozzardi (TB Nutman et al, J Infect Dis, 156:662, 1987).

Infection	Drug	Adult Dosage*	Pediatric Dosage*
HOOKWORM infection (Ancylostoma duodenale, Necator americanus)			
Drug of choice:[22]	Mebendazole	100 mg bid x 3d	100 mg bid x 3d for children >2 years
	OR Pyrantel pamoate[7]	11 mg/kg (max. 1 gram) x 3d	11 mg/kg (max. 1 gram) x 3d
Hydatid cyst, see TAPEWORM infection			
Hymenolepis nana, see TAPEWORM infection			
ISOSPORIASIS (Isospora belli)			
Drug of choice:	Trimethoprim-sulfamethoxazole[7,23]	160 mg TMP, 800 mg SMX qid x 10d, then bid x 3 wks	
LEISHMANIASIS			
L. braziliensis, L. mexicana (American cutaneous and mucocutaneous leishmaniasis)			
Drug of choice:[24]	Stibogluconate sodium[2]	20 mg/kg/d (max. 800 mg/d) IV or IM x 20d may be repeated or continued until there is a response	20 mg/kg/d IM or IV (max. 800 mg/d) x 20d
Alternative:	Amphotericin B[7]	0.25 to 1 mg/kg by slow infusion daily or every 2d for up to 8 wks	0.25 to 1 mg/kg by slow infusion daily or every 2d for up to 8 wks
Leishmaniasis			
L. donovani (kala azar, visceral leishmaniasis)			
Drug of choice:	Stibogluconate sodium[2,25]	20 mg/kg/d (max. 800 mg/d) IM or IV x 20d (may be repeated)	20 mg/kg/d IM or IV (max. 800 mg/d) x 20d
Alternative:	Pentamidine isethionate	2-4 mg/kg/d IM for up to 15 doses	2-4 mg/kg/d IM for up to 15 doses
L. tropica, L. major (oriental sore, cutaneous leishmaniasis)			
Drug of choice:	Stibogluconate sodium[2,26]	10 mg/kg/d (max. 600 mg/d) IM or IV x 6-10d (may be repeated)	10 mg/kg/d IM or IV (max. 600 mg/d) x 6-10d
Alternative:	Topical treatment[27]		
LICE infestation (Pediculus humanus, capitis, Phthirus pubis)[28]			
Drug of choice:	1% Permethrin[29]	Topically	Topically
Alternatives:	Pyrethrins with piperonyl butoxide	Topically[30]	Topically[30]
	Lindane	Topically[30]	Topically[30]
Loa loa, see **FILARIASIS**			
PNEUMOCYSTIS carinii pneumonia[31]			
Drug of choice:	Trimethoprim-sulfamethoxazole	TMP 20 mg/kg/d, SMX 100 mg/kg/d oral or IV in 4 doses x 14d	TMP 20 mg/kg/d, SMX 100 mg/kg/d oral or IV in 4 doses x 14d
Alternative:	Pentamidine isethionate	4 mg/kg/d IM x 14d	4 mg/kg/d IM x 14d
Roundworm, see ASCARIASIS			
SCABIES (Sarcoptes scabiei)			
Drug of choice:[32]	Lindane	Topically once	Topically
Alternatives:	Sulfur in petrolatum	Topically	Topically
	10% Crotamiton	Topically	Topically
SCHISTOSOMIASIS			
S. haematobium			
Drug of choice:	Praziquantel	20 mg/kg tid x 1d	20 mg/kg tid x 1d
S. japonicum			
Drug of choice:	Praziquantel	20 mg/kg tid x 1d	20 mg/kg tid x 1d
S. mansoni			
Drug of choice:	Praziquantel	20 mg/kg tid x 1d	20 mg/kg tid x 1d
Alternative:	Oxamniquine	15 mg/kg once[33]	10 mg/kg bid x 1d[33]
S. mekongi			
Drug of choice:	Praziquantel	20 mg/kg tid x 1d	20 mg/kg tid x 1d

15. Diethylcarbamazine should be administered with special caution in heavy infections with Loa loa because it can provoke ocular problems or an encephalopathy. Antihistamines or corticosteroids may be required to decrease allergic reactions due to disintegration of microfilariae in treatment of all filarial infections, especially those caused by Onchocerca and Loa loa. Surgical excision of subcutaneous Onchocerca nodules is recommended by some authorities before starting drug therapy.

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HERE'S ONE DOCTOR WHO WON'T PAY HIS MALPRACTICE PREMIUMS THIS YEAR.



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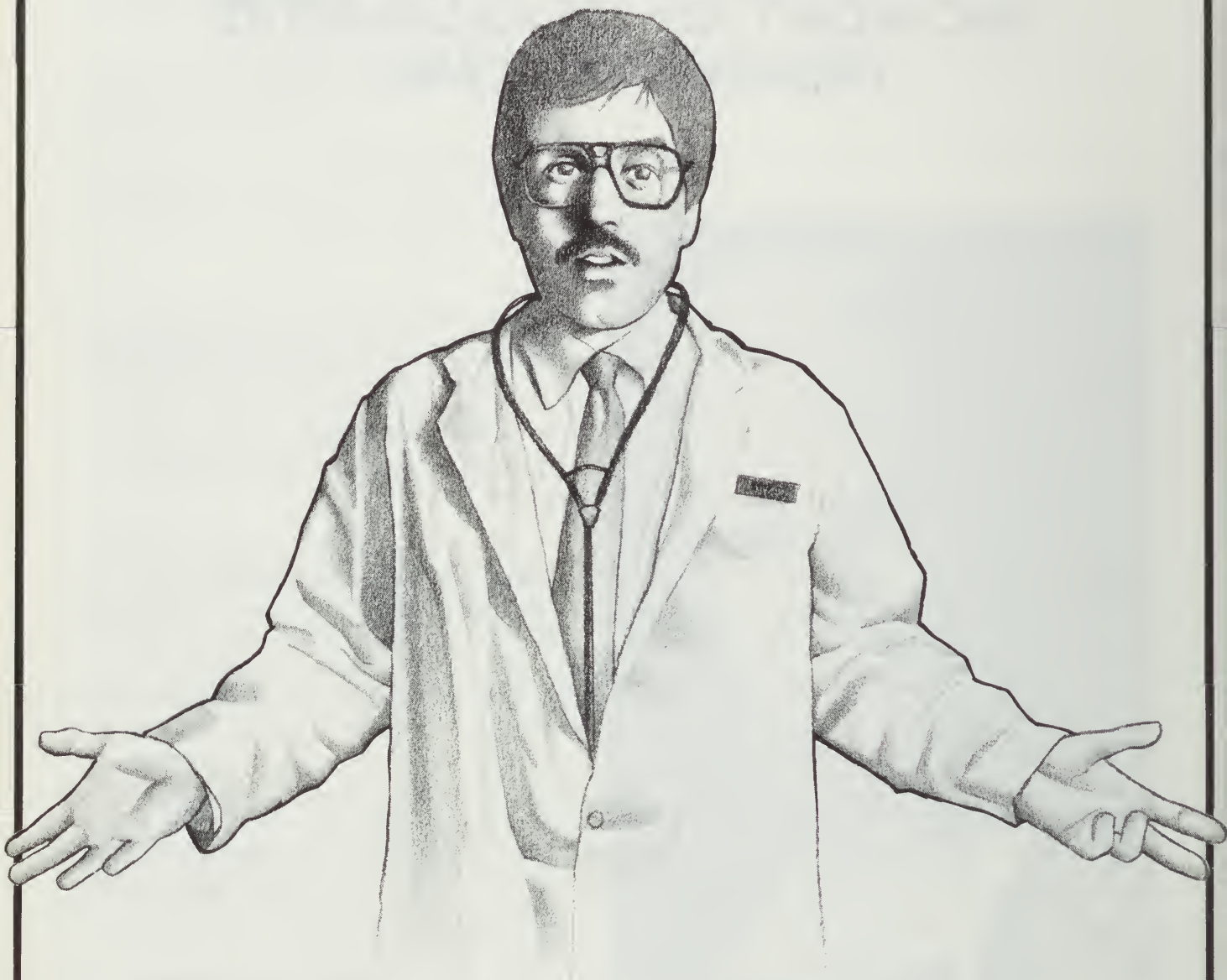
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Highlights: Executive Committee and Council Actions

Executive Committee - October 20, 1988

Participation in Safety Belt Program On recommendation of the Public Relations Committee, the Executive Committee approved a motion to support a campaign, through co-sponsorship with the Maryland Committee for Safety Belt Use, Inc., to enlist the assistance of Maryland physicians in educating the public on the proper use of safety belts and child safety seats to reduce the loss of life and severity of injuries associated with motor vehicle crashes. It was understood that this program would not be funded by Med Chi.

Licensing of Physicians with Infectious Diseases The Executive Committee reviewed correspondence from the Board of Physician Quality Assurance requesting Med Chi's advice or guidelines concerning the licensing of physicians with infectious diseases who wish to continue practicing surgery. It was the Executive Committee's decision to postpone action on this matter until after the AMA Interim Meeting in December, at which time the AMA Board of Trustees will present a report to the House of Delegates on this issue. In the meantime, a letter will be sent to the Board indicating the Executive Committee's action.

Committee on Third-Party Carriers The Committee on Third- Party Carriers has been asked to investigate two problem areas brought to the attention of Dr. Dobridge by concerned physicians. The first issue is regarding *nonpayment for hospital psychiatric services* determined by the utilization review program of Maryland Blue Cross/Blue Shield. The involved physicians will be meeting Maryland Blue Cross and Blue Shield representatives for resolution of this matter.

The second issue concerns *changes in claims processing of the Pennsylvania Blue Shield Medicare as Secondary Payor program*, resulting in a delay of Medicare reimbursements to physicians. Following action by Med Chi and the Montgomery County Medical Society, both HCFA Region III and Pennsylvania Blue Shield have indicated that action within the context of HCFA instructions has been taken to minimize the impact of this federal policy upon physicians in the areas of Pennsylvania BC/BS (Montgomery and Prince George's Counties).

Medical Waste Emergency Regulations Update The Committee was briefed on the medical waste emergency regulations that became effective October 1, 1988. The regulations require that physicians generating more than 50 kilograms (110 pounds) per month of medical waste must adhere to the maintenance of accurate disposal records and the use of only state-certified waste haulers. Gerry Evans stated that these revised regulations should not affect physicians since they are considered small waste producers. He added that physicians should be aware of haulers contacting their offices trying to sell waste disposal services that may not be necessary. Further information will be disseminated to physicians through the *Maryland Medical Journal.*

Professional Review Organization (PRO) R. Lane Wroth MD, Medical Director for the Delmarva Foundation for Medical Care, has informed the Faculty that the Delmarva Executive Committee accepted the subcontracting concept with the Maryland Foundation and the Prince George's Foundation and has authorized its Executive Director to develop the proposal further with staff representatives from Maryland Foundation for Health Care and Prince George's Foundation for Medical Care.

Emergency/OPD Diversion of Services Plan The Committee reviewed Med Chi's correspondence to Nelson J. Sabatini, Deputy Secretary for Health Care Finance, Policy and Regulation, requesting updated information on the implementation date of the diversion plan and a possible method for waiving certain area hospitals from this diversion requirement. Med Chi has surveyed its membership relative to their individual involvement in the Medical Assistance Program and what improvements could be made to increase physician participation. These survey results will be provided to Dr. Sabatini on completion of tabulation in an effort to enhance communication and cooperation.

Med Chi Survey on Uncompensated Care The draft Med Chi Uncompensated Care Survey was reviewed by the Executive Committee. The Governor's Commission on Uncompensated Care also has reviewed the survey and expressed their interest in assisting in this joint effort with Med Chi. Med Chi plans to conduct a trial survey of approximately 100 physicians. After discussion, the Executive Committee approved the distribution of the Uncompensated Care Survey to a designated physician group with details to be properly worked by staff.

Proposed Legislation Surrounding Withdrawal of Medical Services from Terminally Ill It was reported to the Committee that the State Bar Association has solicited Med Chi's comment on proposed legislation that would expand the list of parties who could provide substituted consent for initiating, withholding, or withdrawing medical treatment for disabled individuals. The Legislative Committee, the Medicolegal Committee, and the Committee on Professional Ethics will report their recommendations to Council at its November 19, 1988 meeting.

Committee on Hospital Medical Staffs Dr. Victor Hrehorovich, Chairman of the Committee on Hospital Medical Staffs, presented the following recommendations for review by the Executive Committee and forwarding to the Council for action:

1. *Division of Licensing and Certification of the Department of Health and Mental Hygiene (hospital licensing authority)* - The Executive Committee approved, in concept, a proposal for strengthening ties with the Department of Health and Mental Hygiene regarding quality assurance activities.

2. *Med Chi Sponsored Consultation Service for Quality Assurance* - The Hospital Medical Staffs Committee has identified a need for a resource to provide expertise to

hospital medical staffs on the development and enhancement for quality assurance activities. Such services would be provided on a contractual basis and through the Med Chi service corporation.

3. *Risk Management - Risk-management seminars and programs should be made available to interested hospital medical staffs* - The Committee recommends that Med Chi consider contacting all professional liability insurers doing business in Maryland to obtain criteria for approved risk-management programs.

The Executive Committee thanked Dr. Hrehorovich for his presentation on behalf of the Committee on Hospital Medical Staffs and extended him an invitation, which he accepted, to address the November 19, 1988, meeting of the Council.

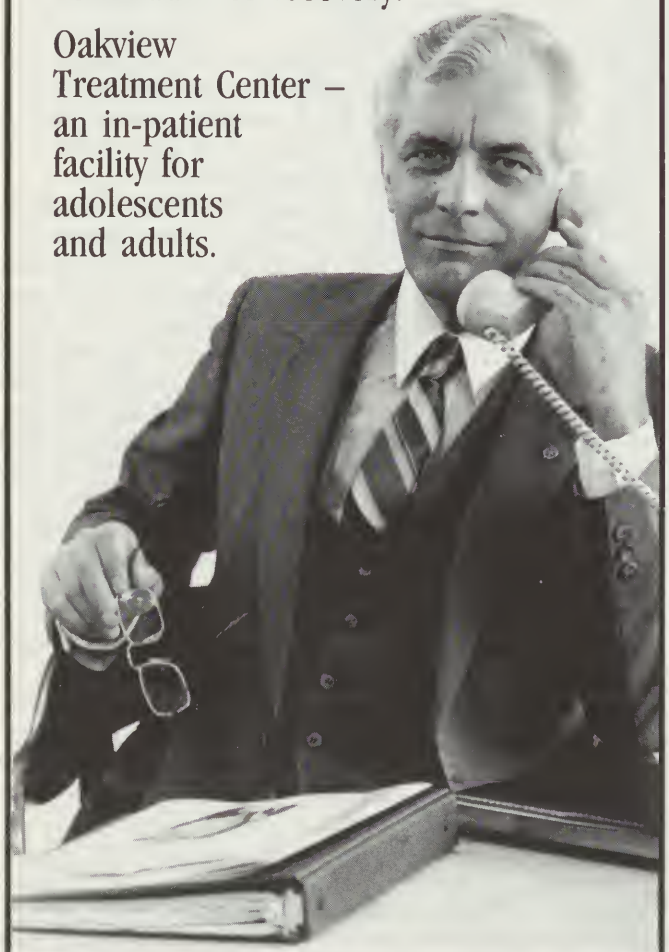
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Maryland Medical Journal
Tentative Editorial Calendar - 1989

This is a tentative general listing of topics for 1989. Readers and authors are invited to contribute their articles, comments, and letters to the editor for any issue. All manuscripts are reviewed by the Editorial Board and accepted or rejected on their merits. Publication lead time is approximately three months; for example, for the August issue, copy should be submitted by May 1.

Theme issues will include other unrelated articles; authors are encouraged to submit articles/comments/letters for any theme issue. Dedicated issues will deal with only one topic. *MMJ* will consider suggestions from readers for issues still open.

April History of Bacteriology (to 1925) and Medical Microbiology (since 1925) in Maryland (theme issue)
May Computers in Medicine (theme issue)
June International Health Activities in Maryland Istitutions (dedicated issue)
July University of Maryland - Department of Medicine
August Annual Reports (dedicated issue)
September open
October open
November Genetics (dedicated issue)
December Semiannual Meeting and Reports (theme issue)

Information for Authors

Med-Chi members reading papers before organizations are invited to submit their papers to the MMJ for consideration for publications.

The *Maryland Medical Journal* is the monthly publication of the Medical and Chirurgical Faculty of the State of Maryland. Its goals are educational and informative: the publishing of scientific articles and other technical information as well as editorials, special articles (evaluations, position papers, reviews of nonscientific subjects), membership news, notices of medical events, legislative and governmental news, meetings, continuing education courses, and programs and policies of the Faculty.

Manuscripts may be sent to Editor, *MMJ*, 1211 Cathedral St., Baltimore, MD 21201. Articles are accepted for publication on the condition that they are contributed solely to this journal. Transmittal letters should designate one author as correspondent and include his/her address and telephone number. Manuscripts are reviewed by the editor, editorial board members, and guest reviewers. The final decision is reserved for the Editor.

Specifications

Manuscripts must be original typed copy, double spaced throughout (including text, case reports, legends, tables, and references) with margins of at least one inch. Number pages consecutively. Please submit two additional copies.

Include in the manuscript the concise title, full name of the author (or authors) with highest degree, academic and professional titles, affiliations, and any institutional or other credits.

An introductory synopsis/abstract of approximately 100-150 words is required.

Tables are to be typed on separate sheets of paper numbered, and have a brief descriptive title. The Editor reserves the right to edit tables. Be sure that statistics are consistent in both tables and text.

References are limited to those citations noted in the text. References are to be typed double-spaced and numbered consecutively as they appear in text. They will be examined critically at the time of review and must be kept to a minimum. The number of references is generally limited to 20 in major contributions and fewer in shorter articles. Exceptions may be made if appropriate in the opinion of the reviewing editor. Personal communications and unpublished data should not be included. The following are necessary: names of all authors, complete title of article cited (lower case), name of journal abbreviated according to Index Medicus, volume number, first and last page numbers, and year of publication. For more extensive information about preparing medical articles for publication, the editors suggest the International Committee on Medical Journal Editors: Uniform requirements for manuscripts submitted to biomedical journals. The complete document is available in the June 1982 issue of the *Annals of Internal Medicine*.

Illustrations are material that cannot be set in type. Photographic material must be submitted as high-contrast, glossy prints. Drawings and graphs must be done professionally in india ink on high-grade white drawing paper. *Omit illustrations that do not increase understanding of text, and limit them to a reasonable number.* Four or fewer illustrations should be adequate for a manuscript of 4 or 5 typed pages. Legends are to be typed on a separate sheet of paper. Type on a gummed label and affix to the back of each illustration: figure number, title of manuscript, name of senior author, and arrow indicating top. Legends for illustrations should be typed on a separate page with numbers corresponding to those on the photographs and drawings. Cost of printing color photographs must be borne by the author.

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Executive Director's Newsletter

March 1989

NEW MEDICARE PART-B REQUIREMENTS

On April 1, 1989 physicians will be required to use ICD-9 codes on all Medicare Part B claims. The AMA has persuaded HCFA to delay enforcement of the provision until June 1, 1989 in order to apprise physicians of the change. Failure of physicians to comply with the requirement could result in monetary penalties of up to $2,000 per incident, or even exclusion from the Medicare program.

MED CHI RESOLUTIONS

On January 28, 1989, the Med Chi Council passed a resolution that would support efforts toward legislation that would limit the sale of tobacco products in Maryland. The Council also passed a resolution that would encourage the AMA to work in conjunction with State Medical Societies, the restaurant industry, and the media to make unsaturated margarine available in all restaurants.

ETHICS IN PATIENT REFERRAL ACT

Congressmen Pete Stark (D-CA), plans to introduce a bill, "Ethics in Patient Referral Act," that would prevent Medicare payment to physicians who refer patients to facilities in which they have a financial interest. Stark is soliciting members of the Ways and Means Committee to co-sponsor the bill. The AMA opposes the proposed legislation since it is anticompetitive and overlooks the potential benefits of physician investments being used to broaden access of care.

MANDATED MEDICARE ASSIGNMENT BILL

Rep. Brian J. Donnelly (D-MA) has reintroduced bill H.R. 155 for Mandated Medicare Assignment. Donnelly's proposal has been rejected several times by the House Ways and Means Committee and by other Congressional health committees. The AMA has conducted several legislative efforts to fend off mandatory assignment by educating members of Congress on the detrimental aspects that such a policy would create

and on how the Medicare reimbursement system works. According to the AMA, there is no indication that mandatory assignment will be a significant issue in the 101st Congress.

PHYSICIAN REQUIREMENTS FOR HOME HEALTH CARE

Physicians with patients requiring home health care must comply with new regulations obligating physicians to submit signed orders to the home health agency within 10 days. Home health agencies who fail to receive signed orders within 10 days must discharge patients from their care, according to the Code of Maryland Regulations, Section 10.07.10. The MD Assn for Home Care (MAHC) worked to change the previous law which prohibited home health agencies from accepting any patient for skilled care without signed physician orders. MAHC felt that the requirement for immediate signature by physicians was unduly restrictive since many physicians orders are given verbally and subsequently signed and mailed to the agency. As a result of MAHC efforts, the Maryland General Assembly has now allowed a period of 10 days to have signed orders from the physician in order to provide skilled care to patients.

ANNUAL MEETING GOLF TOURNAMENT

A Golf Tournament will begin at 10 a.m. on Tuesday, April 11, at the Turf Valley Country Club. Coffee and donuts will be available prior to the start, and lunch will be served following the tournament. Prizes will be awarded. The $50 entry fee includes golf cart and greens fees. To register contact Ann Clark in the Annapolis Office at 301-268-6872.

CONSULTATION

Med Chi co-sponsors a phone-in radio talkshow called CONSULTATION that airs nationally from 5-9 p.m. each Saturday. Med Chi is currently seeking physicians and topics for the program. Interested physicians should contact Betsy Newman, Public Relations for the Faculty at 301-539-0872 or 1-800-492-1056 in Maryland.

Angelo J. Troisi, FACHE
Executive Director

Quality Practice Digest

LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state.

The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland.

DURABLE POWER OF ATTORNEY FOR HEALTH CARE

A physician and the physician's patient need to be aware of the legal mechanisms that are available under Maryland Law for making clear the wishes of the patient to refuse medical treatment. The living will and durable power of attorney for health care are two legal mechanisms that may be used to make known the medical decisions of the patient if the patient becomes incapacitated.

The documents will provide some legal protection for the physician who is following the wishes of the patient. The February issue of the MMJ contains a copy of the Maryland Living Will with a discussion of its limitations. See MMJ Vol. 38 No. 2.

The following is a sample durable power of attorney under which a patient may appoint a person to act on his behalf in making health care decisions if the patient becomes incapacitated:

DURABLE POWER OF ATTORNEY FOR MEDICAL TREATMENT

INFORMATION ABOUT THIS DOCUMENT

This is an important legal document. Before signing this document, it is vital for you to know and understand these facts:

This document gives the person you name as your agent the power to make health care decisions for you if you can't make decisions for yourself. Even after you have signed this document, you have the right to make health care decisions for yourself so long as you are able to do so. Your agent will be able to make decisions for you only after two physicians have certified that you are incapable of making them yourself. You have the right to revoke (take away) the authority of your agent by notifying your agent or your health care provider orally or in writing of this desire.

I,_____
(your name)

hereby appoint:_____
(agent's name)

_____
(agent's address and telephone)

as my agent to make health care decisions for me if and when I am unable to make my own health care decisions. This gives my agent the power to consent to giving, withholding or stopping any health care, treatment (including life-sustaining treatment), service, or diagnostic procedure. I specifically authorize my agent to make decisions for me about artificially supplied nutrition and hydration (tube feeding). My agent also has the authority to talk with health care personnel, get information, and sign forms necessary to carry out those decisions.

If the person named as my agent is not available or is unable to act as my agent, then I appoint the following person(s) to serve in the order listed below:

1._____
(agent's name)

_____
(agent's address and telephone)

2._____
(agent's name)

_____
(address and telephone)

By this document I intend to create a power of attorney for health care which shall take effect upon my incapacity to make my own health care decisions and shall continue during that incapacity.

I have discussed my wishes with my agent, and he or she shall make all health care decisions on my behalf, including decisions to withhold or withdraw all forms of life-sustaining treatment, including artificially administered hydration and nutrition.

My particular wishes are:

_____

_____

_____

BY SIGNING HERE I INDICATE THAT I UNDERSTAND THE PURPOSE OF THIS DOCUMENT

I sign my name to this form on_____
(date)

at:_____
(address)

_____
(you sign here)

WITNESSES

I declare that the person who signed or acknowledged this document is personally known to me, that he/she signed or acknowledged this durable power of attorney in my presence, and that he/she appears to be of sound mind and under no duress, fraud, or undue influence. I am not the person appointed as agent by this document, nor am I the patients's health care provider, or an employee of the patients's health care provider.

I further declare that I am not related to the patient by blood, marriage, or adoption, and, to the best of my knowledge, I am not entitled to any part of his/her estate under a will now existing or by operation of law.

FIRST WITNESS
Signature:_____
Home Address:_____
Print Name:_____
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SECOND WITNESS
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Consult the package literature for prescribing information.

Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae, Haemophilus influenzae,* and *Streptococcus pyogenes* (group A β-hemolytic streptococci).
Contraindication: Known allergy to cephalosporins.
Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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Concerns about the Use of Portable Cholesterol Analyzers

STEPHEN HAVAS MD, MPH, MS

While there is growing interest and concern about the role of portable cholesterol analyzers in clinical practice, the evidence on the effectiveness of these devices is limited. It has been shown that a number of factors can affect the validity of the cholesterol readings. We present a cautionary view on use of these devices.

Despite downward trends over the past 20 years, heart disease remains the leading cause of death in the United States. Most of these deaths are due to coronary heart disease (CHD). Of the three major modifiable risk factors for CHD, elevated blood cholesterol (defined here as $\geq$200 mg/dl) may be the most important in that it may be a prerequisite for the development of coronary artery disease.[1]

The recently published "Report of the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults" classifies levels of blood cholesterol of 240 mg/dl or higher as high, levels from 200 mg/dl to 239 mg/dl as borderline high, and levels below 200 mg/dl as desirable.[2] Approximately 27 percent of the adult population aged 20 to 74 have blood cholesterol levels of 240 mg/dl or higher; another 30 percent have levels from 200 mg/dl to 239 mg/dl.[3] With almost 60 percent of adults having a blood cholesterol level above the desirable range, elevated blood cholesterol is clearly the most prevalent major risk factor for CHD.

Elevated blood cholesterol meets all the criteria normally considered necessary before instituting widespread screening.[4] First, it constitutes an important public health problem in terms of its prevalence and the severity of its consequences. Second, there is a reliable test for measuring it. Third, there is a long latent phase to the disease it causes, during which preventive measures can be instituted. Fourth, effective, safe treatments exist that can lower the prevalence of this risk factor and in turn can reduce the resulting morbidity and mortality.

The Adult Treatment Panel Report strongly recommended that all adults in the United States have their cholesterol levels tested by their physicians and that significant efforts be made to reduce these levels in the population. The report further recommended that special efforts be made to detect adults with elevated blood cholesterol and to have their physicians carefully evaluate, counsel/treat, and monitor them.

Despite the high prevalence of high and borderline high cholesterol levels in the US population, most adults do not know their level. A 1986 public survey indicated that 46 percent of adults reported having had their blood cholesterol checked, but only 7 percent reported knowing their actual level.[5] Only 8 percent had ever been told by a doctor that their level was high.

During the past five years, a variety of portable cholesterol testing devices have been designed and are now being marketed aggressively. Such devices offer many attractive features over traditional laboratory testing for blood cholesterol. Because they are portable, they can be used in a variety of settings: shopping malls, supermarkets, worksites, churches, and physicians' offices. The tests are relatively painless, requiring a fingerprick to extract a small amount of blood. The results are available within a matter of minutes, allowing for rapid feedback to the individual concerning his/her cholesterol level and its meaning. The cost of this test to the consumer is generally lower than is traditional laboratory testing.

Given these advantages, it is not surprising that many organizations and some physicians have begun using these machines to conduct cholesterol testing and monitoring. However, there are many unanswered questions concerning the efficacy of this new technology. Some important questions should be answered before widespread use of this technology occurs; research projects under way are designed to answer these questions.

Unanswered Questions

There are at least a dozen portable analyzers now on the market. The three most commonly used are the Boerhingher Reflotron, the Kodak Ektachem DT-60,

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HBP Commentary is contributed by the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors, 201 W. Preston St., Baltimore, MD 21201 (301-225-5891). Editors: R. Patterson Russell MD, Past Chairman; Donald O. Fedder PharmBS, DrPH, Chairman; and Robert S. Epstein MD, MS Assistant Professor of Epidemiology, University of Maryland School of Medicine.

Carol Lewis ScD, former Executive Director of the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors, is now Director of Community Cardiovascular Programs at the Mary Imogene Bassett Hospital in Cooperstown, NY. Dr. Robert S. Epstein, an Assistant Professor of Epidemiology, University of Maryland School of Medicine, replaces Dr. Lewis as one of the editors of HBP Commentary.

and the Abbott Vision. Each instrument uses an enzymatic reagent system to measure cholesterol. The Reflotron can measure cholesterol from whole blood, plasma, or serum. A designated aliquot is placed on a reagent strip, which is read by a reflectance photometer. The Kodak Ektachem DT-60 requires an aliquot of serum or plasma obtained by centrifugation of a capillary or venous sample. An aliquot is placed on a slide containing reagents, which is then read by a reflectance photometer. The Abbott Vision centrifuges a sample of whole blood, plasma, or serum. This sample is then mixed with reagents and is read by a spectrophotometer.

The first, and perhaps most critical, unanswered question is whether these new devices provide reliable results. Two factors are important in assessing reliability: accuracy and precision. Accuracy is defined as agreement with the "true value," as determined by a reference laboratory that has been standardized for cholesterol measurements. Precision is defined as reproducibility of the measurement, that is, producing the same result on repeat determinations.

The Laboratory Standardization Panel (LSP) of the National Cholesterol Education Program has recommended that accuracy of blood cholesterol measurement methods currently in use by clinical laboratories should be within ±5 percent from the true value and within five years should be no greater than ±3 percent from the true value.[6] Also, clinical laboratories should initially achieve an overall precision consistent with a coefficient of variation (CV) of 5 percent or less; ultimately laboratories should achieve a CV of 3 percent or less. The coefficient of variation is calculated as follows: $\frac{\text{standard deviation}}{\text{mean}} \times 100$ percent

The LSP also recommended that cholesterol measurements made by all clinical laboratories in the US should be standardized so that cholesterol values are traceable to the Centers for Disease Control (CDC) reference method or the National Bureau of Standards (NBS) definitive method. Laboratories can accomplish this goal and also improve the accuracy and precision of their cholesterol measurements by using certified reference materials currently available from the NBS, the CDC, or the College of American Pathologists (CAP) to evaluate their cholesterol measurement methods and/or instruments.

The lack of reliability of many clinical laboratories currently performing cholesterol analyses was demonstrated recently in a survey of 5,000 laboratories by the CAP; lack of accuracy was a major finding of that survey.[6] To date, it has been difficult to standardize the portable cholesterol analyzers so that cholesterol values are traceable to the CDC or NBS methods, and good quality control samples for these devices have been lacking. These factors pose significant problems for ensuring reliable cholesterol determinations.

If these devices provide unreliable results, the public will not be well served by testing with portable analyzers. Individuals may be inappropriately assured that their blood cholesterol is in the desirable range (false negatives), when in fact their values are high and require dietary and possibly even drug therapy. Conversely, if individuals are inappropriately labeled as high (false positives), unnecessary concern may be generated. A similar problem could arise if patients who have been following cholesterol-lowering diets are retested and fail to show a reduction in their blood cholesterol level due to measurement error. The credibility of cholesterol testing as well as of treatment could be compromised by these types of problems.

Results of several evaluations of portable cholesterol analyzers in laboratory settings have now been published.[7,8] In general, these have shown that results for accuracy and precision that met current LSP guidelines could be obtained when the devices were operated by highly trained personnel. However, other studies have shown that when the analyzers were operated either by noncertified medical technologists or by nonlaboratory trained personnel such as physicians, nurses, or secretaries, performance deteriorated significantly and did not meet the LSP guidelines.[9,10]

Another unanswered question is whether these devices perform consistently over an extended period. Given their recent introduction to the market, few data exist concerning significant deteriorations in accuracy and precision the longer they are used.

Ongoing Research

Several major research projects on this subject are under way, funded by the NIH. Three projects (the Model Systems for Blood Cholesterol Screening Program) are evaluating the accuracy and precision of the Reflotron, the Ektachem DT-60, and the Vision when used over time in a variety of settings.[11] Findings from these projects should be published within one year. Other evaluations of portable cholesterol analyzers are being carried out in several community CHD prevention projects and in several laboratory based studies.

Interim Recommendations

A workshop for researchers in this field was conducted recently by the National Institutes of Health to assess the current state of portable cholesterol analyzers and to provide interim recommendations for those using them in screening settings. Data presented at this workshop indicated considerable variability in the accuracy of results obtained in various studies, only part of which was due to differences in training used by the operators. Frequent misclassification of individuals' cholesterol levels resulted. Both false labeling and false reassurance were common, even when the devices were operated by highly trained personnel.

The workshop made the following recommendations concerning these analyzers.[12]

1. Those using these devices should be trained by experienced laboratory personnel.

2. The accuracy and precision of the instrument should be carefully evaluated prior to use; if the results do not meet the LSP guidelines, the instrument should be returned to the manufacturer.

3. Quality control samples with cholesterol levels of about 200mg/dl and 240 mg/dl should be run each day before using the analyzer, after every twentieth sample, and at the end of the day; accuracy and precision should be calculated weekly and should meet LSP guidelines.

4. Split samples should be analyzed several times daily by the instrument and by a laboratory that has been standardized so that its cholesterol values are traceable to the CDC reference method or the NBS definitive method; the values obtained from the portable analyzer should continue to meet the LSP guidelines for accuracy.

5. Individuals tested with these portable analyzers should be told that measurements must be done on multiple occasions in order to have their cholesterol level correctly classified.

The final set of recommendations relates to education and follow-up of those tested. The importance of a lifelong, healthful diet should be emphasized for all those tested; translated into operational terms, this really means a diet with no more than 30 percent of the calories from fat. Follow-up of those identified as having high blood cholesterol levels is critical.

Conclusion

Elevated blood cholesterol represents one of the nation's greatest health problems. To successfully conquer this problem, most adults need to have their blood cholesterol level tested and take steps to maintain it in the desirable range. Many steps can assist in accomplishing this goal, ranging from education to dietary counseling to changing the food supply to use of medication.

It is essential, however, we ensure we provide our patients with accurate results. The new portable cholesterol analyzers may have considerable difficulty at this time in accomplishing this. For physicians who wish nonetheless to use these instruments now, the NIH workshop recommendations provide a useful and necessary guide for reducing inaccuracy and misclassification.

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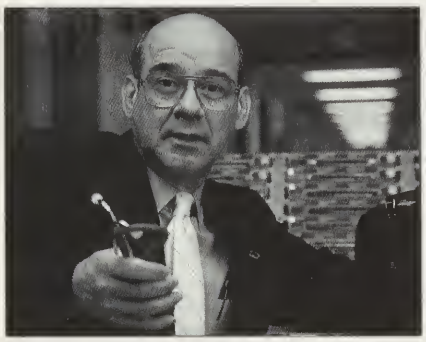
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Rebound hyperglycemia occurring after insulin-induced hypoglycemia is customarily called the Somogyi Phenomenon. The sequence of hyperglycemia following hypoglycemia is by no means invariable. It will depend on the severity of the hypoglycemia, the availability of body glucose to be released into the circulation, and other factors. When it occurs, it is within a few hours of the peak of the hypoglycemic episode. If rebound is encountered, one should not "chase" the hyperglycemia peaks with more insulin but allow the condition a day or two to become stabilized.

When the diagnosis is confirmed, the treatment usually is to slightly reduce the total 24 hour insulin dosage or to give the same amount in a different distribution of injections and unitage.

The phenomenon is often overdiagnosed on inadequate evidence. The most common cause of hyperglycemia remains a lack of insulin for the amount of food consumed.

De WITT E. De LAWTER MD
Editor

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The Medical and Chirurgical Faculty of the State of Maryland maintains a Placement Service for the convenience of Maryland physicians, hospitals and communities in search of candidates for positions available in our state. A detailed description of such opportunities should be forwarded to the Physician Placement Service, 1211 Cathedral St., Baltimore, MD 21201; telephone 1-301-539-0872.

Physicians wishing to locate in Maryland are invited to submit a resumé to be kept on file with the Physician Placement Service. Candidates are requested to inform the Faculty when they are no longer available for consideration for opportunities which might be available in Maryland.

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Medical Miscellany

CME Focuses on Strategies to Address Patients' Psychosocial Problems

It is estimated that at least one third of all patients seen in primary care practice have some significant psychosocial problem deserving physician attention. Moreover, patients with psychosocial disturbances are high users of nonpsychiatric medical care; some estimates of utilization are as much as twice that of the nondisturbed patient population. It appears this portion of the patient population takes the lion's share of physician time and resources.

The Johns Hopkins Medical Institutions recently received funding from the National Institute of Mental Health (NIMH) to develop and evaluate a communication skills training intervention program for community based primary care physicians with the aim of improving recognition and address of patients' psychosocial problems. The Maryland Academy of Family Physicians, the Maryland Society of Internal Medicine, the Medical and Chirurgical Faculty of the State of Maryland, the Center for Health Education, Inc., and the University of Maryland are cooperating in this effort.

Physicians in private or small group practice in the Greater Baltimore Metropolitan area will be invited to participate in the study. The CME program will be specifically designed to address the variety of psychosocial disorders as presented in primary care practice. The program will provide 8 CME credits. In return, participants will be expected to complete an evaluation protocol. For further information and details, call Dr. Debra Roter, 301-955-5660.

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Terminal Care: Where Does It Fit in Oncology?

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> I do solemnly swear by whatever I hold most sacred: . . . that into whatsoever home I shall enter it shall be for the good of the sick and the well . . . that I will exercise my art, solely for the cure of my patients and the prevention of disease.

This is a vow to seek cure and to prevent illness. But, in the broader sense of the word *dis-ease*, it might also be interpreted that we should attempt to comfort the sick and remove the source of their uneasiness.

In American society there is an inherent conflict in pursuing comfort measures alone. We are a tough, winning society, and we have instilled in our children the idea that we can always be better. We can always fight harder. We can always depend on research to come up with a cure or, at least, a panacea for our ails. In addition somehow we have learned to equate death with failure. We can never "give in" to the dying process but must continue to fight to the very end with the hope of winning and achieving cure.

As oncologists and physicians treating people with cancer we often have to push patients through the pain of the postoperative period, side effects of radiation therapy, or a granulocytopenic infection after chemotherapy. None of these episodes alone is particularly pleasant, but we are sustained by a vision of cure. Later, when someone has "failed" therapy, we are obligated to "follow" our patients, but the goal is less clear; most of us never have received specific instruction on where to go from here.

The time after active therapy but before death is nebulous and ill defined. And who among us in comfortable with the unknown? As physicians we are expected to have an answer; as individuals we have come to expect answers from ourselves. Consequently, it is disconcerting when a patient might experience some symptom for which there is no remedy.

In contrast to this scenario in the United States, British physicians have developed the subspecialty of Palliative Care. Here the goal is no longer cure but the relief of symptoms that plague those in the terminal phase of an illness.[1] By alleviating such symptoms as pain, nausea, dizziness, constipation, shortness of breath, or anxiety the physician continues to "work for the good of the sick" by improving quality of daily life. The methods may not seem technically difficult in comparison with other current therapy but in part that may be because not as much research effort has been directed toward these types of interventions.

Palliative Care units exist in Great Britain, Canada, and Australia as places of training for medical students and other clinical disciplines. In the United States, most of this type of instruction is done through continuing education courses, hospices, and university based pain programs. The latter frequently are interdisciplinary groups including neurology/neurosurgery, anesthesia, psychiatry, and oncology or internal medicine. However, pain management in this setting is not specifically tailored to the dying patient.

Hospice, in the modern sense of the term, originated in 1966 in London, when Dame Cicely Saunders designed St. Christopher's Hospice for terminal cancer patients.[2] In 1973 the first hospice in the United States opened in New Haven, Connecticut, as a home-care program only. Now there are 1,679 hospice programs in the United States, and the emphasis has remained on home care rather than on inpatient treatment.[3]

As with other forms of home care, there has not been a large medical influence.[4] Many physicians have seen hospice care as a nursing arena. However, when Congress recognized the validity of hospice care by creating the Medicare Hospice Benefit, care of the terminally ill became a more legitimate part of general health care. Although a multidisciplinary approach is still the basis for daily hospice care, patients must be signed into the Medicare Benefit by two physicians, and each hospice team must include a medical director.[5]

Rendering care in the period from treatment failure to death can be a continuing challenge to our expertise as physicians.[6] We must encourage research into methods of pain and symptom management just as we have studied appropriate therapy for disease. Quality of life for the patient can be used as a measure of success.

Care of the terminally ill raises many moral and economic issues.[7] Each of us must consider where our own practice fits into this general scheme of things. More importantly, we must consider how we will fit terminal care into our own practice.

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If you have any questions call or write the Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, Maryland 21202 (301-328-5224).

CARLA ALEXANDER MD
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Members in the News

Susan R. Guarnieri MD was named President-elect of the Baltimore City Medical Society at its recent annual meeting. She will assume the presidency in December 1989.

Dr. Guarneiri received her MD degree from Ohio State University in 1966. She served an internship in Mixed Medical at Mount Carmel Hospital in Columbus, OH, from 1966 to 1967 and as a resident in Public Health at the Philadelphia Health Department from 1967 to 1968, after which she received her MPH from the Johns Hopkins University School of Hygiene and Public Health in 1969.

Dr. Guarnieri was Commissioner of Health for the City of Baltimore from 1984 until September 1987 when she became Medical Director of the Baltimore Gas and Electric Company. Dr. Guarnieri was Vice-President of the BCMS in 1986 and 1988 and was Treasurer in 1987.

* * *

Claude D. Hill MD received the 1988 Baltimore City Medical Society Community Service Award at the Society's Annual Meeting. The award is given each year to a Baltimore physician who has made a special contribution toward making Baltimore a better place in which to live.

Dr. Hill received the award for his long support of youth programs, health education, human and civil rights, and the delivery of quality medical care in the City. A specialist in OB/GYN, Dr. Hill practices in West Baltimore. He served as Chief of OB/GYN at Provident Hospital from 1958 to 1971 and has served as a Board member for the Baltimore Urban League, Maryland Blue Shield, the Maryland Chapter of the American Cancer Society, and the West Baltimore Community Health Center. He was appointed a member of the Baltimore City Council in 1987. In August 1988, Dr. Hill was appointed to the newly established Physician Quality Assurance Board, which grants medical licenses and disciplines physicians in Maryland.

In making the presentation, **Israel Weiner MD**, President of BCMS, said, "Dr. Hill has spent his entire career giving freely of his time and expertise to make Baltimore a better place to live. It is an honor to have him as a member of the Baltimore City Medical Society and a citizen of Baltimore."

* * *

Joseph H. Hooper MD has been elected Vice-President of the Baltimore City Medical Society. Dr. Hooper received his MD degree from the Johns Hopkins University in 1954. He served an internship at Union Memorial Hospital from 1954-1955, then served in the US Navy from 1956 to 1958 before completing his surgical residency training at Union Memorial Hospital from 1962 to 1963. Dr. Hooper entered private practice in General Surgery in 1963.

Dr. Hooper was Secretary of the BCMS in 1987 and 1988 and has served as a member and Chairman of the BCMS Peer Review Committee since 1984.

* * *

Allan D. Jensen MD was elected Treasurer of the Baltimore City Medical Society at it Annual Meeting. Dr. Jensen received his MD degree from the Johns Hopkins University in 1968. He served an internship at Union Memorial Hospital and a residency in Ophthalmology at Johns Hopkins Hospital. From February to April 1972 Dr. Jensen served an exchange residency at Khalili Hospital, Shiraz, Iran. In 1973 he completed a fellowship at Massachusetts Eye and Ear Infirmary and Retina Foundation, Boston.

* * *

Albert Nahum MD was elected Secretary of the Baltimoe City Medical Society. Dr. Nahum received his MD degree from the University of Istanbul Medical School in 1954 and served an internship and residency at Watte Hospital, Durham, NC. Dr. Nahum moved to Baltimore in 1964 and completed a fellowship in Internal Medicine at Johns Hopkins Hospital. Dr. Nahum was Treasurer of the BCMS in 1988.

* * *

Hiroshi Nakazawa MD was elected President of the Baltimore City Medical Socity at its Annual Meeting. Dr. Nakazawa graduated from Chiba University School of Medicine in Japan in 1956. Emigrating to Baltimore in 1957, he served surgical residencies at St. Agnes and Bon Secours Hospitals. Dr. Nakazawa served as Chief Resident in Surgery at St. Agnes in 1961 and entered private practice in General Surgery in 1962.

As chairman of the Baltimore/Kawasaki Sister Cities Program, Dr. Nakazawa was instrumental in arranging a number of cultural and educational exchanges between the two cities. He received the BCMS Community Service Award in 1987 for his efforts in this area, and in August 1988 he received a citation from President Reagan as one of the Ten Outstanding Asian Americans of 1988.

* * *

Sidney J. Pion MD has been appointed chairman of the department of radiology at Montgomery General Hospital in Olney.

Dr. Pion received his medical degree from the Albert Einstein College of Medicine in New York and served his residency at the Bronx Municipal Hospital Center. He was chief of the department of radiology at Beaufort Naval Hospital from 1971 to 1973. From 1973 to 1976 he was chief of special procedures and assistant professor of radiology at the University of North Carolina

Hospital and Medical School. Since 1976, Dr. Pion served as Vice-Chairman of the radiology department at Montgomery General. He also has been an assistant clinical professor of radiology at the George Washington University School of Medicine.

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Cytopathology: New Legislative, Regulatory, and Proficiency Testing Requirements

JOHN M. DEBOY DrPH and EDITH J. MOULTON MS

In 1988, a combination of efforts by the press, the Maryland General Assembly, the Department of Health and Mental Hygiene (DHMH), and an advisory panel of pathologists and cytotechnologists led to broader and stricter regulation of cytopathology laboratories in Maryland. A new law called for standards covering the maximum number of slides a cytotechnologist may examine, unsatisfactory specimens, slide and records retention, a limitation on the use of out-of-state laboratories by Maryland physicians, and a mandatory, state-run proficiency testing program. Maryland's proficiency testing program is modeled on that of New York State but incorporates improvements in diagnostic definitions, testing mechanisms, and retraining requirements.

Beginning in February 1987 and continuing through the spring of 1988, the national and local news media and Congress mounted a strong attack on the quality of testing conducted by the nation's clinical laboratories. Cytopathology laboratories first came under attack in a *Wall Street Journal* investigative series[1] that reported the death of a patient whose cervical cancer allegedly went undetected because her cervicovaginal (Papanicolaou) test specimens were read incorrectly.

Locally these laboratories came under renewed attack when a week-long, televised report[2] claimed that Papanicolaou tests had an error rate of 20 to 40 percent and that some laboratories required cytotechnologists to meet workload quotas and allowed them to take slides home to read. This report also placed states and the federal government under fire for failing to provide the statutory and regulatory structures needed to ensure testing quality.

In January of 1988 the Senate Labor and Human Resources Committee held hearings[3] in Washington, DC on laboratory testing problems affecting cancer detection in women. These hearings, which drew on the earlier televised report and included more testimony on misdiagnosed Papanicolaou stained slides, ended with a call for increased laboratory regulation.

Maryland's General Assembly accepted the media and congressional challenge during its 1988 session by introducing several bills to greatly expand the regulation of cytopathology laboratories. The final legislative product, House Bill 1293, was enacted on July 1, 1988, as additions to Health-General Article, Title 17, 202 and 205, Annotated Code of Maryland. This new law required specific standards for medical laboratories engaged in cytopathology, including mandatory laboratory participation in a state-run proficiency testing (PT) program.

The authors are with the Community Health Surveillance and Laboratories Administration's Division of Laboratory Licensure, Certification and Training. Reprints: Division of Laboratory Licensure, Certification and Training, Laboratories Administration, 201 West Preston St., Baltimore, MD 21201.

Maryland's Cytopathology Laboratories

A comprehensive survey form was mailed in February 1987 to 12 out-of-state and in April of 1987 to 81 in-state cytopathology laboratories holding Maryland permits to operate. This survey was intended to provide general information needed to develop expanded regulations and implement a new PT program for these laboratories. Three in-state labs no longer offered cytopathology services; and four others failed to respond. Seventy-four of 78 in-state laboratories that responded (95 percent) employed 162 pathologists and 132 cytotechnologists, and screened a total of 1,100,000 cerviocovaginal (Papanicoloau) smears in 1987.

Tables 1-4 show these in-state labs by geographic location, staff size, and total gynecologic and non-gynecologic slides/cases screened. Ten (23.5 percent) of 74 in-state labs paid cytotechnologists on a piecework basis. Twenty-nine (22 percent) of 132 in-state cytotechnologists were employed by more than one laboratory. Eight (67 percent) of the 12 out-of-state

Table 1. Cytopathology Labs Licensed and Operating in Maryland, April 1988, by Geographic Location

Baltimore City	20
Baltimore metropolitan area (Baltimore, Anne Arundel, Howard, & Harford Counties)	21
District of Columbia	1
Metropolitan DC (Prince Georges, Montgomery, & Calvert Counties)	20
Other regions within Maryland	13
Other regions outside MD and DC	11
Total	86

Table 2. Licensed Cytopathology Laboratories in Maryland, April 1988, by Size of Professional Staff

Pathologist(s) only	20
1-2 cytotechnologists	34
3-5 cytotechnologists	12
>5 cytotechnologists	6
Total	72

labs were licensed by New York State as well as by Maryland and participated in New York's cytopathology PT program. Two additional out-of-state labs were either certified or had certification pending by the American Society of Cytology.

New Legislation and Regulations

Maryland's new law specifically addresses many of the potential abuses and problems identified by the press and presented in public testimony. For example, the DHMH must set a limit on the number of slides a cytotecnologist may examine. The Department is seeking to limit this number to 80 or 100 slides in each 24 hours. This would provide state limits equivalent to those proposed by the federal Health Care Financing Administration for Medicare-certified laboratories.

Cytotechnologists are now prohibited by Maryland law, as well as by federal Medicare regulation, from examining cytology slides outside a licensed medical laboratory, and laboratories may no longer pay cytotechnologists on a piecework basis. In addition, out-of-state labs that pay cytotechnologists on such a basis are no longer eligible for a Maryland permit. Maryland also requires that cytology labs have a supervisory cytotechnologist or pathologist review at least 10 percent of previously screened slides. Medicare-certified labs already were required by federal regulations to rescreen 10 percent of their slides.

Table 3. Cervicovaginal Slides Screened by Licensed Cytopathology Laboratories in Maryland, 1987

No. of Slides	No. of Labs	No. of Slides	No. of Labs
<1,000	19	35,000 - 39,999	2
1,000 - 4,999	22	50,000 - 54,999	2
5,000 - 9,999	9	80,000	1
10,000 - 14,999	8	104,000	1
15,000 - 19,999	3	106,000	1
20,000 - 24,999	5	228,000	1
Total	74		

Table 4. Medical (Noncervicovaginal) Slides/Cases Screened by Licensed Cytopathology Laboratories in Maryland, 1987

No. of Medical Slides/Cases	No. of Labs
0	8
1-100	18
101-1,000	18
1,001-10,000	30
Total	74

*Survey data did not distinguish between slides and cases for noncerviocovaginal specimens.

Maryland cytopathology laboratories must now reject unsatisfactory specimens, comment on the quality of such specimens, and maintain records on these unsatisfactorily prepared specimens for five years. In addition, labs must store and maintain all slides for five years and retain all cytopathology reports for at least ten years.

The new law also prohibits Maryland physicians from submitting cytopathology specimens to out-of-state labs not licensed in Maryland. This requires a physician to personally ascertain whether a given cytopathology laboratory holds a Maryland permit. This information and a list of labs possessing this permit can be obtained from the DHMH's Division of Laboratory Licensure, Certification and Training by calling 301-225-6080.

Maryland's new law also directs the DHMH to adopt regulations to establish and conduct a cytology proficiency testing program for all cytology personnel in Maryland who examine cytology specimens. The law requires that this PT be conducted on-site (that is, within the labs), that test materials be hand carried and testing be supervised by a DHMH official, and that PT fees cover the full cost of the PT program.

Proficiency Testing

The DHMH began laying the groundwork for a state-run proficiency testing program by working closely with the press and members of the General Assembly in the fall of 1987. By January 1988 it became apparent that a PT bill would be passed by the General Assembly, and the Department invited a number of Maryland-based experts to serve as advisors on laboratory issues associated with cytopathology. This advisory panel[4] met ten times between January 26, 1987 and January 11, 1989 to develop regulatory standards and PT mechanisms for cytopathology labs.

Maryland's cytopathology PT program is modeled, with some modifications, on that of New York State. One modification involves Maryland's testing and grading of cytotechnologists as well as pathologists. Maryland also has developed improved diagnostic terminology and an improved examination form, as depicted in Figure 1.

Proposed regulations specific for this PT program were recently published in the *Maryland Register*.[5] A pilot PT cycle is being conducted through June 1989 for all cytopathology labs in Maryland. This first PT cycle will test sets containing ten cervicovaginal test slides. The pilot cycle will not assess PT fees, and test results will not become part of a lab's regulatory record. This initial cycle is intended to allow the Department to try out its testing methods and to obtain the cooperation and help of the state's cytopathology labs in implementing a fair and effective program.

A regular testing cycle complete with PT fees and mandatory retesting and retraining for those failing the test is scheduled for fall 1989. Annual cycles are envisioned unless cycle length and/or limited resources force biennial testing. Test sets containing several medicals (slides of body fluids) will be introduced in the fall of 1991.

All positive test slides used in Maryland's regular PT cycles are obtained from individual Maryland clinicians or laboratories and are evaluated by a panel of expert Maryland pathologists using the same technical criteria proposed by Penner[6] and implemented by New York State.[7] All negative test slides are limited to those that have been correctly diagnosed by 15 (94 percent) of 16 pathologists.[8]

A PT score of <90 percent, based on graded scores of 10, 5, or 0 points for each of ten slides, is considered a failure and unsatisfactory performance. Individuals failing the first test in a regular PT cycle will be subject to additional testing and possibly other restrictions as shown in Figure 2.

Fees to cover the cost of the PT program will be assessed on a sliding scale based on an examination fee of $250 per lab, plus $50 per cytotechnologist examined, plus $0.02 per gynecologic slide examined during the previous calendar year. The average annual cost of the PT programs over its first five years will be around $60,000. Included in the cost is money for computer software that will automate the grading of proficiency tests and compiling of program statistics.

CYTOLOGY PROFICIENCY TEST SHEET

Division of Laboratory Licensure, Certification and Training
Laboratories Administration
201 West Preston St. Baltimore, MD 21201 (301) 225-6080

Lab permit #: _____ Test date: __/__/__ Test #: 1 2 3 4 Surveyor: Slide set:

PATHOLOGIST'S **ONLY** name/B.M.E.# (please PRINT)

Lab name and address:

Cytotechnologist name (PRINT): State I.D.#:

SLIDE DIAGNOSES

A	B	C	D
NO CANCER EVIDENCE	UNSATISFACTORY for diagnosis due to [limit criteria to]:	SIGNIFICANT EPITHELIAL ATYPIA	CANCER PRESENT
Include here:	Inadequate (e.g., cellularity, endocervical component)	HPV c/s dysplasia (condylomatous)	Invasive squamous cell carcinoma
Mild inflammatory atypia	Poor cell preservation (e.g., air drying, necrosis degeneration)	Mild dysplasia (CIN I)	Adenocarcinoma
Simple squamous metaplasia	Obscuring (e.g., inflammation, blood)	Moderate dysplasia (CIN II)	Other malignant neoplasias
Herpes	Cytopreparation (e.g., stain, artifact)	Marked dysplasia/ Carcinoma in situ (CIN III)	

	CYTOTECHNOLOGIST'S DIAGNOSIS	Office Use Only Cor.Dx.	Ed.Sc.	Reg.Sc.	PATHOLOGIST'S DIAGNOSIS	Office Use Only Cor.Dx.	Reg.Sc.
SILENT	1 ____	____	____	____	S 1 ____	____	____
	L				L		
	I 2 ____	____	____	____	I 2 ____	____	____
	D				D		
	E 3 ____	____	____	____	E 3 ____	____	____
	N 4 ____	____	____	____	N 4 ____	____	____
	U				U		
	M 5 ____	____	____	____	M 5 ____	____	____
	B				B		
	E 6 ____	____	____	____	E 6 ____	____	____
	R				R		
	S 7 ____	____	____	____	S 7 ____	____	____
	8 ____	____	____	____	8 ____	____	____
	9 ____	____	____	____	9 ____	____	____
	10 ____	____	____ %	____ %	10 ____	____	____ %

Cytotechnologist's signature & date: Pathologist's signature & date: 1/9/89

Starting Time ____:____
Completion Time ____:____ ____/__/__ ____/__/__

Figure 1. Maryland's diagnostic test sheet for cytopathology proficiency testing.

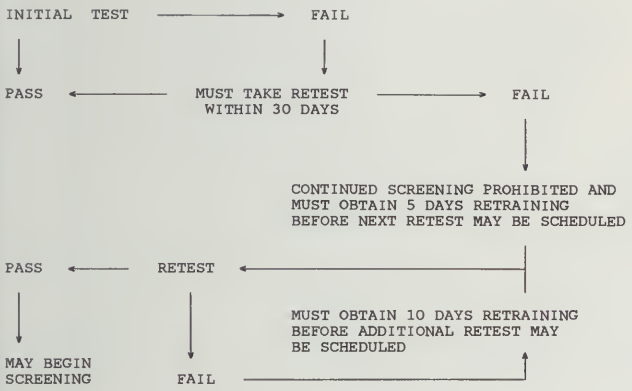


Figure 2. Maryland's proposed retesting and retraining requirements for pathologists and cytotechnologists who fail to obtain a satisfactory score on initial and subsequent proficiency tests in a given testing cycle.

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BRIEF SUMMARY

CONTRAINDICATIONS
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PRECAUTIONS
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

Pregnancy: Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

OVERDOSAGE
There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
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Reference:
1. Eliakim R, Ophir M, Rachmilewitz D: *J Clin Gastroenterol* 1987;9(4):395-399.

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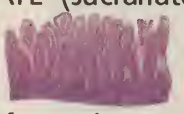
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Prehospital Care and the Community Hospital as a Base Station

DAN K. MORHAIM MD, FACEP

In Maryland's coordinated, regionalized emergency medical system, prehospital care is given to an injured or ill person at home, on the street, or in a doctor's office before the patient is transported to a hospital. Prehospital care of patients has advanced significantly since the federal government passed emergency medical service (EMS) legislation in 1966. In Maryland there are several functioning levels of prehospital care providers who perform skills unique to their particular environment and training. It is reasonable for all hospitals operating a full-service Emergency Department to consider becoming base stations for consultation to prehospital care providers bringing patients to that hospital. This is well within the province of the Emergency Medicine specialist and will provide improved service to patients.

Prehospital care is given by emergency medical technicians-ambulance (EMT-As), cardiac rescue technicians (CRTs), emergency medical technicians-paramedic (EMT-Ps), and aviation trauma technicians (ATTs). Many critical decisions are made in the prehospital phase, and all physicians, nurses and community hospitals should be aware of this important aspect in the continuation of health care delivery. Community hospitals, through an organized and involved emergency medicine department, can take an active role in prehospital care by applying for base station status. As a base station, the hospital's emergency department physicians provide medical advice to prehospital providers.

History of Prehospital Care

The modern history of prehospital care can be divided into several phases. Since World War II, prehospital care has moved beyond the basic tasks of providing simple bandaging and transportation for the wounded. The use of triage, field stabilization, and rapid transport led to reductions in morbidity and mortality.

The Highway Safety Act (Public Law 89-564 passed in 1966) was an important milestone in addressing the needs of trauma victims before their arrival at a medical facility. Earlier studies had documented that at least 20 percent of deaths occurring at the scene of motor vehicle accidents resulted from reversible conditions. Thus, the Department of Transportation and the Federal Communication Commission began to set guidelines for the care of trauma victims and to establish programs for training prehospital care providers and for communications between prehospital care providers and physicians.

States were mandated to develop plans for emergency medical services (EMS). Nationwide programs were funded that trained literally thousands of paramedics and emergency medical technicians. Modern concepts of cardiopulmonary resuscitation (CPR) were developed as knowledge of the pathophysiology of cardiac arrest increased and were incorporated into Advanced Life Support programs.

The American College of Emergency Physicians (founded in 1968) began to establish standards affecting the practice of emergency medicine. In addition to the standards that had been set for the treatment of trauma cases, guidelines were formulated for the treatment of medical and pediatric emergencies.

After passage of the Emergency Medical Services Systems (EMSS) Act (Public Law 93-154) in 1973, a nationwide emergency medical care system was created. Components of EMS systems were identified, and areas of geographic responsibility were delineated. Financing was arranged through federal matching-fund grants.

Popularized in the media and made accessible through 911 phone systems, EMS systems currently render a significant portion of health care in the United States. For example, in Maryland, which has a population of 4.5 million, approximately 380,000 ambulance runs are made each year. Furthermore, it has become increasingly apparent that the care a patient receives in the first few minutes or hours of an illness or injury will greatly affect the ultimate outcome.

Prehospital Providers

Prehospital care providers are certified for Basic Life Support by the Maryland Institute for Emergency Medical Services Systems (MIEMSS) and by the Maryland Board of Medical Examiners for Advanced Life Support. They may be volunteer or career/paid and usually are affiliated with a fire department or governmental agency.

EMT-As are taught primarily to "do no further harm to patients, to perform basic stabilization, and to transport patients." Training consists of approximately 110 hours of course work. Skills include basic cardiopulmonary resuscitation, splinting, hemorrhage control, immobilization and extrication of patients at the scene, and treatment of medical emergencies. Additional training modules on the use of esophageal obturator airways and military antishock trousers (MAST) are available to EMT-As.

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In addition to EMT-A skills, the CRT can administer a wide variety of medications. A minimum of 160 hours of course work above the EMT-A level is required.

ATT's skills are applied during helicopter transportation. ATTs function essentially as CRTs, but can provide some additional services required by their unique mode of patient transportation. However, CRTs and ATTs cannot provide synchronized cardioversion, endotracheal intubation, or removal of airway foreign bodies with McGill forceps. These are performed by the highest level of provider, the EMT-P.

To achieve the EMT-P level in Maryland the paramedic is required to have at least 300 hours of training beyond that of a basic EMT-A. Additional skills include full advanced life support activities, including intravenous and parenteral drug therapy, cardioversion, defibrillation, removal of foreign bodies in the airway by McGill forceps, cardiac monitoring, and endotracheal intubation. There is considerable variation among local jurisdictions as to how and when these and other skills are used. Paramedics in several Maryland counties began to perform endotracheal intubation in cardiac arrest patients in mid-1986.

Drugs available to paramedics generally include oxygen, lidocaine, epinephrine, atropine, sodium bicarbonate, naloxone (Narcan), nitroglycerine, morphine, furosemide, dopamine, terbutaline, bretylium, diazepam, ipecac, D50W, and IV solutions of dextrose in water and Ringer's lactate.

In addition, prehospital care providers employ some special skills and devices unique to their trade. These personnel must be skilled in the safe physical removal of patients from the scene of an accident (referred to as extrication). These efforts are coordinated with fire, police, or other rescue services. To extricate patients requires not only the mechanical removal of the patient but also the immobilization of the neck and spine with collars and backboards and of fractures with splints. Sometimes more sophisticated care, including IVs and drugs,is given to patients while still trapped.

The MAST device referred to earlier is an air-inflatable garment with components for both the legs and the lower abdomen. After the garment is placed around the patient, which takes only 30 seconds to one minute, it is inflated to compress the legs and lower abdomen. Antishock trousers are used to treat hypotension, to splint and stabilize fractures of the pelvis and lower extremities, and to modify and control suspected intra-abdominal bleeding (posttraumatic, leaking aneurysm, or ruptured ectopic pregnancy) through external compression. External counterpressure acts as a lower body immobilizer, a tamponade vehicle for internal hemorrhage, a nonsurgical external fixator for pelvic fractures, and a nonsurgical abdominal aortic clamp for support of coronary circulation when needed. It is used in the field to rapidly immobilize and stabilize patients for transportation to an emergency facility.

Prehospital care personnel also use mechanical cardiopulmonary resuscitation devices. Although a variety of mechanical cardiopulmonary devices exist, the brand name THUMPER best describes these devices. Driven by compressed air/oxygen, the machines deliver regular chest compressions through a rocker arm; they also can provide positive-pressure oxygen delivery. Mechanical cardiopulmonary devices seem to work at least as well as human-driven chest compression. Furthermore, their use avoids operator fatigue and frees the provider to attend to the patient's other needs.

Medical Direction

In all EMS systems, medical direction from a medical director is required. The medical director is responsible for clinical and patient care aspects of the system. Advanced life support (ALS) prehospital care provided by nonphysicians is considered to be an extension of the medical license of the medical director.

The responsibilities of the medical director can be separated into on-line and off-line functions. On-line control refers to communication between prehospital care providers and physicians at base station hospitals. The physician "controls" or advises prehospital care providers in the specific clinical management of individual patients. Protocols determine when prehospital care providers are required to contact a base station (Table 1). In general, this occurs when patients are sick, when specific clinical advice is required, or when the prehospital care providers believe the hospital should be notified in order to be well prepared to receive the patient.

Off-line functions include, but are not limited to education, protocol development, and quality review. The medical director also should have the authority to interact with other components of the EMS systems and to discipline or limit the activities of those who deviate from the established standards of care.

Base Station

As more hospitals in Maryland staff their emergency departments with emergency medicine specialist physicians and nurses, community hospitals are taking an increasingly active role in prehospital care (Table 2). In a community hospital serving as a base station, emergency physicians provide consultation to care providers bringing patients to that particular hospital. The advantages include:

- Teamwork and communication between the prehospital care providers and the physician and nursing staff from the hospital are promoted.
- The physician and nursing staff are familiar with the patient on arrival.
- Skills and experience in the management of patients in the prehospital care phase are developed.
- Quality review of care in the field is more easily achieved.

Disadvantages can be:

- Time demands on staff to set up base station.
- Time demands to manage a case when the Emergency Department staff is overloaded.

Typically, a base station consists of a console unit in a central area of the Emergency Department (Figure 1). The console permits two-way communication with providers in the field and radio telemetry transmissions of rhythm strips (Figure 2). It is helpful to have a notebook at the console to describe guidelines of field care as a reminder for the physician. Brief notes are taken about the patient and the care given; these notes are discarded after the ambulance arrives, unless a significant issue is raised. In Maryland, tapes of all calls are kept for two weeks so they are available if needed for quality review. Although it is not difficult for a community hospital to serve as a base station, it requires commitment on the part of the hospital and the emergency department staff, with support from other members of the medical staff and hospital administration. The following specific guidelines (developed between 1986 and 1987 by Regional Medical Directors and MIEMSS) must be met by a community hospital before it is designated as a base station:

1. As a consultation medical facility, the hospital will provide physicians familiar with Advanced Cardiac Life Support (ACLS) guidelines 24 hours a day, 7 days a week. The physicians must be available to start the consultation within two minutes of first notification.

2. Physicians should complete a base station course. The purpose of the course is to familiarize the physician staff with the use and operation of base station radio equipment as well as with the Maryland prehospital care protocols.

3. The physician should gain exposure to care rendered in the prehospital phase by participating in a "ride along" program with an advanced life support unit. There is

Table 1 .

Sample of Paramedic Protocol

3. SUSPECTED MYOCARDIAL INFARCTION

3.1 All patients with symptoms of chest pain which may be attributable to a cardiac cause:
- 3.1.1 Perform initial patient assessment.
- 3.1.2 Assign treatment priority based upon assessment.
- 3.1.3 Administer 50-100% oxygen, except patients with diagnosed COPD, then 24% oxygen at appropriate liter flow pending medical direction.
- 3.1.4 Start IV of 5% dextrose in water to keep vein open (20-30 mL/hr).
- 3.1.5 Connect to cardiac monitor and obtain rhythm strip, if possible.
- 3.1.6 Establish communications with hospital.
- 3.1.7 Stabilize cardiac status per order of physician (see lidocaine and atropine regimens below).

3.2 The lidocaine regimen may be instituted on the ALS unit by the CRT/EMT-P when physician consultation cannot be immediately obtained via the established EMS communication system and when the patient's condition meets criteria below. *CRT/EMT-P must have a paper tracing of the dysrhythmia before the regimen is instituted.* The lidocaine regimen may be instituted:
- 3.2.1 When the patient's ECG records PVCs that are:
  - a. Frequent (6 or more/min).
  - b. Multifocal.
  - c. Sequential.
  - d. Near "T" wave.
- 3.2.2 When the patient, conscious or unconscious, displays ventricular tachycardia, i.e., three (3) or more PVCs in a row.
- 3.2.3 When the patient displays sustained, ventricular tachycardia with pulse.
- 3.2.4 Following successful conversion from ventricular tachycardia or ventricular fibrillation.

Lidocaine regimen
—1.0 mg/kg IV bolus
—An additional 0.5 mg/kg IV bolus should be given every *ten* (10) minutes after the initial bolus if ventricular ectopy is still present, to a total dose not to exceed 225 mg.

3.3 The atropine regimen may be instituted when physician consultation cannot be obtained via the established EMS communication system and when the patient's ECG records sinus bradycardia or junctional rhythms with the following criteria. *CRT/EMT-P must have a paper tracing of the dysrhythmia before the regimen is instituted.*
- 3.3.1 Heart rate less than 60 bpm with systolic BP less than 80 mm Hg or patient exhibits signs/symptoms of shock.
- 3.3.2 Heart rate less than 50 bpm.
- 3.3.3 Varying degrees of second- and third-degree AV blocks (Mobitz I and II).
- 3.3.4 Second-degree AV blocks (Mobitz I and II) that are hemodynamically significant.
- 3.3.5 High-grade AV blocks.
- 3.3.6 Third-degree AV blocks.
- 3.3.7 Ventricular escape complexes.

Atropine regimen
—0.5 mg IV: may be repeated at five (5)-minute intervals until the desired rate and/or BP is achieved (rate, 60; BP, greater than 80 mm Hg). The total dose should not exceed 2.0 mg IV.

NOTE: *Documentation of the dysrhythmia must be obtained by the CRT/EMT-P prior to institution of either regimen and each administration of a drug.*

Table 2. Hospitals Providing Base Station Consultation

Region I
- Frostburg Community Hospital
- Memorial Hospital & Medical Center of Cumberland, Inc.
- Sacred Heart Hospital
- Garrett County Memorial Hospital

Region II
- Frederick Memorial Hospital
- Washington County Hospital Association

Region III
- Franklin Square Hospital
- Homewood Hospital South
- Carroll County General Hospital
- Sinai Hospital
- Johns Hopkins Hospital
- University of Maryland Medical System
- Mercy Hospital
- Union Memorial Hospital
- St. Joseph's Hospital
- Francis Scott Key Medical Center
- Harbor Hospital Center

Region IV
- Memorial Hospital at Easton
- Union Hospital of Cecil County
- Peninsula General Hospital

Region V
- Prince George's Hospital Center
- Holy Cross Hospital
- Montgomery General Hospital
- Washington Adventist
- Suburban Hospital Association
- Shady Grove Adventist Hospital
- St. Mary's Hospital
- Physician's Memorial Hospital

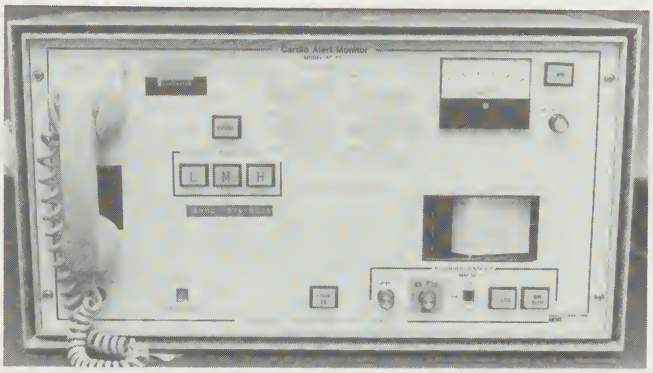


Figure 1. Typical base station unit found in the hospital and used by the on-line physician. This unit can receive a paper strip of the patient's cardiac rhythm in the field.



Figure 2. Paramedic consulting base station physician from ambulance unit.

no faster or better way for a physician to develop appreciation for the difficulties and challenges of prehospital care than to ride with field personnel for several busy shifts.

4. The hospital base station must be willing to be used on an "if-and-when" basis as a backup to the existing cardiac consultation centers. This entails consultations with prehospital care providers who would not be bringing the patients to that hospital, and it would occur when the other consultation centers are overloaded with calls.

5. The hospital will permit MIEMSS to conduct unannounced site visits to determine whether key elements are being met.

Unique Aspects of Base Station Operation

From the physician's point of view, the operation of a base station requires new skills. Physicians are accustomed to evaluating patients in person, and emergency physicians are adept at making rapid and thorough diagnostic and therapeutic decisions. However, in the operation of a base station, all information comes from the prehospital care provider's voice over the radio control box; thus, different "senses" are required for patient assessment. Physicians with experience in prehospital care evolve certain basic skills to enhance communication. Among these are avoiding jargon, speaking slowly and clearly, asking questions if uncertain, informing the field if communications are poor, and asking the opinion of the field provider.

Special Problems

Physician on the Scene Problems may occur when field personnel must provide care in a physician's office or when a physician is on the scene. The field provider may be caught between following protocols (under the direction of the base station physician) and following orders from the physician on the scene.

Physicians inexperienced in acute care medicine sometimes offer their services. Worse, some bystanders masquerade as knowledgeable health care providers. Paramedics usually resolve these problems by requesting positive identification before accepting a "physician's" help by having the physician on the scene talk to the base station physician and by requiring the physician on the scene to accompany the ambulance to the hospital if that physician wishes to continue treating the patient (Figure 3).

Consent and Liability Prehospital care providers frequently deal with situations in which consent and liability may become issues. How does one deal with a minor if no adult is present, especially if that minor is a large, 17-year-old, intoxicated male who does not want

to be treated? What does one do when a patient refuses to accept any treatment? What if a patient later feels the care was poor or inappropriate? Such treatment dilemmas occur daily.

Patients with Terminal Illness Hospice patients and patients with "living wills" raise complex issues. In general, prehospital care providers do not wish to be only a transportation service; private ambulance services exist to fill that need. Frequently, however, providers are confronted with terminal patients whose families may request discontinuance of CPR.

Other unusual situations may arise. There have been cases in which paramedics were told that the patient had cancer, only to discover this referred to skin cancer. In one anecdotal case, a family member did not want a potentially salvageable patient to be resuscitated; later it was disclosed that an inheritance was at stake.

Resolution of these problems is difficult even for a physician in a hospital or office setting. Therefore, paramedics usually will continue resuscitation and follow protocol until the patient reaches the hospital. According to most living will legislation, CPR should be administered until the patient reaches a hospital and a physician. Currently, hospice physicians and staff are working with the Regional Medical Directors and prehospital providers to develop guidelines for care of hospice patients.

Future Issues

As emergency medicine becomes more sophisticated, the role of the paramedic will continue to grow. Paramedics are gaining recognition as allied health professionals, much like respiratory therapists or x-ray technicians. The increasing complexity of prehospital care will encourage career practitioners.

Physician:

In order to ensure continuity of care for your patient, please provide the following information to our medical control physician:

1. A brief medical history of your patient
2. The patient's present illness and chief complaint
3. Current medications
4. Findings of the physical examination

At the completion of this information, please return the card and the radio to the paramedic on the scene.

Figure 3. Reproduction of a card the paramedic gives to a physician on the scene to assist in communications with the base station.

Traditionally, many prehospital care providers have received their training in the firehouse. Recently, however, community colleges have begun offering paramedic training.

Questions remain as to what constitutes the best care in the field. How much should paramedics do? How should new drugs and techniques be integrated into prehospital care medicine? How should prehospital care providers be trained?

Emergency medicine health planners will soon recognize that urban areas with short transport times generally have the highest number of career paramedics, while rural areas with long transport times sometimes have less experienced personnel. In general, areas with longer transport times (30 minutes or more) should provide the highest level of service. Correcting the imbalance between the quality of care offered in areas of long and short transport time will require complex financial and political solutions.

Conclusion

It is reasonable for all hospitals operating a full-service Emergency Department to consider becoming Base Stations for consultation to prehospital care providers bringing patients to that hospital. This is well within the province of the Emergency Medicine specialist and will provide improved service to patients.

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confidential\, kän-fə-'den-chəl\ adj(1759) 1: marked by intimacy or willingness to confide. 2: PRIVATE, SECRET.

nondisciplinary\ nän-'dis-ə-plə-ner-ē\ adj(1598) 1a: not of or relating to discipline. b: not designed to correct or PUNISH breaches of discipline.

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Methodologic Approach for a Large Functional Trauma Registry

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The utility of a clinical trauma registry (TR) is directly related to the constituents of the data base and to the accuracy of the data, which is contingent on a carefully constructed data collection system. A TR was developed by traumatologists at a busy Level I trauma facility that predominantly receives patients having incurred blunt injury. Four dedicated data collectors gather the AP information within 24 to 48 hours after admission, with prompt Attending Surgical review for verification. Examples of data output prove this is a functional system. Using a careful methodologic approach for design and implementation, clinicians can create a large, functional trauma registry with many potential applications.

A multiply injured patient needs specialized care to survive.[1,2] Many advances have been made in recent years to meet the critical needs of traumatically injured patients. Prehospital treatment and transportation modalities provide early stabilization of life-threatening injuries and transport to a medical facility, where the appropriate personnel and equipment for the provision of definitive medical care await the patient's arrival. Continued enhancement of these medical capabilities, resulting in further reductions in morbidity and mortality, requires careful assessment of protocols as well as calculation of needs based on long-term experience. A source of data for such analyses is a clinical trauma registry (TR).[3-5]

Traumatologists at the Shock Trauma Center of the Maryland Institute for Emergency Medical Services Systems (MIEMSS) have designed, implemented, and begun to evaluate a TR, a data collection and analysis system that incorporates descriptions of injuries, physiologic/metabolic alterations, and hospital interventions. The purpose of the TR is twofold: (1) to develop an accurate trauma patient profile by collecting and storing *clinically significant* data that can be analyzed to assess and define critical variables affecting patient survival and morbidity and (2) to provide a measure for trauma patient care relative to medical, nursing, and auxiliary support.

Various methodologic considerations culminated in the design and implementation of this clinical TR. The result of the process is a comprehensive, large-volume data base that can generate reliable reports on issues of clinical concern. The system has built-in flexibility to accommodate changing patient-care patterns and decisions regarding the scope of the registry.

The TR produces an easily accessed data base that has multiple uses. It is intended to enhance the study of the etiologic characteristics of trauma, for example, the incidence of injuries and types of accidents. The TR should help clinicians assess the quality of health care delivery, that is, to define its assets and deficits by delineating the case mix (types and severity of injury) and assessing patient outcome (mortality, morbidity, and length of stay [LOS]). Difficult management areas will be identified with data from the registry; research then can be directed toward understanding the problems and developing appropriate solutions. Evaluation of medical/nursing/auxiliary support services is possible using reports from the registry. Necessary services can be defined, and the associated financial factors (including reimbursements) can be delineated subsequently.

The Emergency Medical Services System in Maryland is an integrated network of prehospital care providers, communications and transportation systems, and medical facilities.[6] Upon arrival at the scene of an incident, field personnel rapidly assess the patient's injuries, institute life-saving interventions, and begin transport procedures. Critically ill and injured patients are transported by Maryland State Police Med-Evac helicopter or by ambulance to the most appropriate medical facility. Admission usually occurs within the "Golden Hour," the hour after injury, during which medical intervention must begin if the patient is to survive.[7] The patient population at the MIEMSS Shock Trauma Center therefore can be summarized as a well-defined group of patients with:

1. similar admission criteria (triaged to a Level I trauma center and predominantly experiencing blunt trauma)
2. similar treatment patterns performed by the same group of care-givers (traumatologists and intensivists)
3. sufficient detailed information to form an accurate and significant data base.

Data Constituents

Data had to be selected to create a pool of information of workable size without jeopardizing its reliability. Too

From the Shock Trauma Center of the Maryland Institute for Emergency Medical Services Systems, Baltimore. **Reprints:** C. Michael Dunham MD, Department of Surgery, MIEMSS, 22 S. Greene St., Baltimore, Maryland 21201-1595.

much or irrelevant data would produce an unmanageable quantity of material to be captured and analyzed reliably, while too little information would leave major gaps in the data base.

While realizing that assessment and procedures from the prehospital and rehabilitation phases are important, we focussed on the first 24 hours after admission; the gravity of a trauma patient's injuries cannot be appreciated fully until the end of that period. As the system evolved, the data base was expanded to include information on procedures and assessments performed during the patient's time in the hospital until discharge. These two constituents of the registry are the Admission Profile and the Hospital Course, respectively.

Trauma patients can be grouped into one or more of six basic categories: shock or cardiovascular instability, respiratory insufficiency, brain injury, spinal cord injury, other significant anatomic injury, or minor injury. These groups dictated the choice of information defining the registry's perspective: (1) the degree of physiologic and anatomic disruption caused by an injury and (2) the treatment instituted. The following elements were selected:

1. demographic characteristics (to define the patient population)
2. etiologic characteristics of the accident/injury
3. selected prehospital assessment/interventions
4. assessment of injury severity/case mix (physiologic/anatomic)
5. initial treatment (resuscitation/surgery)
6. complications (anatomic/physiologic/infectious)
7. outcome (mortality/LOS/brain and extremity function)

Admission Profile

These data relate primarily to the first 24 hours of hospitalization; some information gleaned from the prehospital field reports also is included. The Admission Profile consists of the subgroups listed below.

Demographic Profile Information for this category, largely from the prehospital phase, includes patient characteristics and incident history. Among other items, the demographic profile sheet records the date and time of injury, the mechanism of injury, the time of departure from the scene, and the date and time of admission.

Premorbid Illness Profile This category primarily describes common chronic systemic diseases that could affect the efficacy of therapeutic interventions, increase the severity of the traumatic insult, or dictate patient management.

Cardiovascular Profile This profile supplies prehospital and admission subsets of information. A preinjury history of hypertension, cardiac medications, and/or myocardial infarction is recorded. The prehospital subset supplies at-the-scene heart rate, cardiac rhythm, and blood pressure information as to whether the rate was greater than 100 beats/min or the systolic blood pressure was less than 90 torr. The profile also indicates whether the patient had a cardiac arrest at the scene or in transport, had medical antishock trousers (MAST) applied, or received any fluids. The admission subset identifies admission heart rate, blood pressure, and whether the patient was in cardiac arrest.

Significant external hemorrhage and its location are noted; the admitting physician determines whether the hemorrhage constitutes a "major" blood loss (greater than 500 ml at the scene, in transport, and/or in the admitting area prior to control of the bleeding). This information provides a physiologic perspective to an injury. For example, a scalp laceration accompanied by insignificant bleeding may be unimportant; however, for a patient admitted in shock, a scalp laceration may be the primary source of significant hemorrhage. Most registries indicate only the presence or absence of such an injury; the significance of an anatomic disruption to the patient's overall condition is not always implicit without a physiologic perspective.

This profile also documents the amount of blood lost during a specified operative procedure within the first 24 hours. In addition to intraoperative blood loss, external blood loss via drains is measured to provide a more complete picture of the magnitude of hemorrhage.

Another component of the cardiovascular profile is the amount and type of fluids administered during resuscitative procedures: colloid, crystalloid, packed red cells (banked blood), autotransfused blood, fresh frozen plasma, and platelets. Note is also made during the first 24 hours of any cardiovascular medications the patient may have received and of urinary output.

Respiratory Profile The respiratory profile records admission respiratory rate and airway status: natural airway, esophageal obturator airway, translaryngeal tube, or transtracheal tube. The presence of airway obstruction or cyanosis is noted as are the results of arterial blood gas analysis. The time of tracheal intubation relative to admission is indicated.

Central Nervous System Profile Combining the patient's Glasgow Coma Scale (GCS)[8] score (physiologic/functional perspective of brain function) with his/her computed tomography (CT) scan (anatomic information) creates a relatively comprehensive picture of brain injury. Spinal cord function is described in terms of normal, incomplete deficit, or

complete deficit for each of its three levels: cervical, thoracic, and lumbar.

Anatomic Registry The anatomic registry subdivides major body areas (head, neck, thorax, abdomen-pelvis-perineum, extremities, and spine) into injury categories. Each body region is further subdivided; for example, the head category consists of brain injury, facial fractures, skull fractures, and soft tissue injuries. These subcategories are then further delineated as to the exact location or type of injury; these subdescriptors were selected, according to experience at the Shock Trauma Center, as likely to provide clinically significant information.

Postmortem Review Autopsy information, when available, is provided by the Maryland Medical Examiner's Office. Anatomic injuries are then entered into the anatomic injury section of that patient's data sheet. Therefore, the information on every trauma patient who expires, whether immediately on admission or weeks later, is as complete as possible.

Hospital Course

Since the LOS varies greatly between trauma patients and since much (or little) can happen during that stay, the original scope of the registry (the Admission Profile) was expanded to include major hospital events (infectious and anatomic complications, systems failure, and operative/nonoperative procedures).

Complications This category records systems failure, infectious complications, and anatomic complications, regardless of whether they occur iatrogenically or as sequelae to original injuries (Table 1). Strict definitive criteria have been established for each subdivision within these three groups, which heightens the degree of uniformity of data collection.

The list of systems failure covers multiple metabolic and physiologic parameters that are associated with significant stress or instability. Those items are further divided into subgroups for delineation of processes such as hypotension (mean arterial pressure <60 torr), hypernatremia (serum sodium >160 mEq/liter), oliguria (urine output <60 ml/2 hr), and hyperamylasemia (>200 IU/liter).

The criteria used to identify infectious complications are well delineated by the Infectious Disease Department.

Anatomic complications are listed according to obvious body structures; subgroups are listed under each division to capture events such as pulmonary embolism, soft tissue necrosis (delineated by body region), and pneumothorax.

Procedures This category documents the timing and types of all procedures, whether diagnostic or therapeutic, operative or nonoperative, for example, arteriogram, peritoneal lavage, central venous line insertion, hemodialysis, orthopedic surgery, and plastic surgery. Surgical procedures are delineated according to the Current Procedural Terminology (CPT "codes") adopted by the American Medical Association.

LOS The total amount of time a patient spends in the Shock Trauma Center is documented in this category. That figure is subdivided into time spent in each care unit; the order in which those substays occurred also is recorded. For example, a patient may spend six hours in the admitting area, be sent to the Critical Care Recovery Unit (CCRU), and three days later be transferred to the Intensive Care Unit (ICU). After four days, the patient may develop complications necessitating a return to the CCRU. Seven days later, the patient may again be transferred to the ICU and subsequently to the step-down intermediate care unit for nine days.

Discharge Status The survival/nonsurvival status of each patient is documented. This record shows when and to what facility/location a surviving patient is discharged: home, rehabilitation center, nursing home, or other destination. For each patient who dies, it notes when and where within the facility the death occurred. This category was selected for the evaluation of specific care areas as well as that of patient condition and hospital course.

Data Collection

Admission Profile To help ensure the validity and reliability of the information in the data base, strict definitions were established for the data to be collected and a small collector group was identified. The data had to be easy to capture; otherwise, the recorders would not collect the same information consistently for all patients with the same degree of dependability.

Table 1. Complications within the Hospital Course

Systems Failure		
Neurologic	Respiratory	Hematopoetic
Renal	Gastrointestinal	Extremities
Cardiovascular	Hepatic	Metabolic
Infectious Complications		
Abdominal	Empyema	Sinusitis
Arterial line	Lung abscess	Tracheo-bronchitis
Bacteremia	Osteomyelitis	Urinary tract
Central nervous system	Phlebitis	Soft tissue
Cholecystitis	Pneumonia	
Anatomic Complications		
Neurologic	Respiratory	Soft tissue
Urogenital	Gastrointestinal	
Cardiovascular	Spleen	

Third-level groups are indicated on the data entry form to enhance the specificity of documentation.

Four dedicated data collectors are responsible for reviewing each patient's care chart and listing appropriate values and descriptors within 24 to 48 hours after admission. Within 48 to 72 hours after the data forms have been completed, each of the four trauma team attending surgeons reviews and verifies the entries for his patients. Because the surgeon is involved in the data verification process soon after the patient's admission, he has clear memory of the details of the assessment and treatment procedures and has had time to discover pathologic processes that the patient may not have exhibited at admission. Thus, the physician has the opportunity to medically validate the data entry forms, supply information obtained during the first few days after admission, and otherwise "fine tune" the clinical picture of the patient as indicated on the data form.

Hospital Course The same four data collectors who gather information for the Admission Profile also retrieve certain data for the Hospital Course. They review the patients' hospital charts *daily* until discharge; extract specific, identified information (diagnostic and therapeutic operative and nonoperative procedures); and assign predetermined codes. While the patient is in the Neurotrauma Acute Care Unit or the CCRU, the critical care attending physician provides additional data: he/she completes forms on a daily basis to validate information (GCS, spinal cord function, myocardial infarction) that requires expert assessment. When the patient progresses to the step-down units, the trauma surgical attending completes these forms on a weekly basis until the patient is discharged. Certain data that lie within a range arbitrarily identified as abnormal, such as a serum sodium value $>$ 160 mEq/liter or a cardiac index $<$3.0 liter/min/m^2, are harvested from computer-stored data that have been collected each day as part of the patient's routine care.

Data Processing

Data Entry Information collected from patients' charts and reviewed by the attending medical staff is added to the TR data base via an IBM PC/AT by a dedicated entry person via a system of compiled dBase and SAS®screens. The personal computer (PC) has a 70-megabyte (MB) hard drive, 640-kilobyte RAM (random access memory), and a 1.2-MB floppy drive.

The data-entry person is knowledgeable about the TR constituents and is able to spot inconsistencies and determine if data are missing; questions about these data items are discussed with the data collectors. Numerous quality control checks are performed to ensure accuracy of entry. Records are reviewed that have an illogical response, for example, an "abnormal CT scan" is marked "yes" or the summary page reveals that there is a "thoracic injury," yet there is no entry in the respective injury sections.

Data entry screens designed for the TR show acceptable ranges for clinical and laboratory values (for example, admission pH level) and provide a means for immediate audit by the data entry person. The program also alerts the operator to inconsistent and incomplete entries within a record.

Data Output Data are transferred from the entry system onto a 1.2-MB high-density floppy disk and onto the hard disk of the data output system. The output system is a Compaq Deskpro 386 PC running at 20 MHz CPU. The system has a 300-MB hard drive, 1-MB RAM, 1.2-MB floppy drive, and a 35-MB Compaq tape backup system. The primary software is PC/SAS®, customized to enhance ease of data base access and file management. The SAS®software supports the storage and retrieval of data, data modification and programming, report writing, statistical analysis, and file handling. Some programming must be performed by the attending medical staff, which permits optimal manipulation of the data base.

The data are evaluated by a series of queries/checks to identify data collection and entry errors, for example, frequency distributions of data fields are compared over "adjacent" time periods and assessed when there is a significant variation. The data base is modified/updated to enhance accuracy.

Sample Results

Currently, the TR includes the Admission Profile for 9,193 trauma patients admitted to the MIEMSS Shock Trauma Center between July 1983 and June 1988. The Hospital Course contains data sets for 6,560 of the patients admitted between February 1985 and June 1988.

Table 2 shows the categorization of injuries sustained by 5,390 trauma patients: 87.2 percent had blunt traumatic injuries (only 0.6 percent had combination blunt/penetrating injuries), including 3,252 craniofacial injuries. Of the 5,390 patients, 76.0 percent were admitted directly from the accident scene and 71.5 percent were transported by helicopter.

Tables 3 and 4 display the airway status and neurologic profile for the same patients. More than 90 percent had no airway obstruction and were breathing via their natural airway on admission, yet 40 percent required intubation during the initial 24 hours after admission. Over 18 percent had GCS values of $\leq$12 ; 44.1 percent of all patients required CT scans, 40.2 percent of which were abnormal.

A sample study group consisting of 1,058 patients admitted between July 1983 and June 1984 was chosen; this homogenous population had the characteristics of

blunt trauma injuries, no cardiac arrest, and direct admission from the scene. The modified Trauma Score (TS),[9-11] the GCS,[8] and the Injury Severity Score (ISS)[12-14] values, and their respective mortality rates, are shown in Tables 5 through 7.

Using the Admission Profile data set for the sample study group, a stepwise multivariate logistic regression analysis was used to determine the subset that best related to mortality:

$$\text{probability of death} = 1/(1 + e^{y})$$

where $e = 2.718$, $y = 4.89 - 1.98(I) - 2.06(P) - 2.92(G3) - 1.56(G5) - 0.00003(A^2) - 0.0002(B) - 1.3(R)$. In this equation, I = inotrope (Y/N), P = pressor (Y/N), G3 = GCS 3-4 (Y/N), G5 = GCS 5-7 (Y/N), A = age, B = ml of blood administered in the first 24 hours, and R = admission respiratory rate $\leq$10/min (Y/N). A "yes" (Y) response was valued as 1; a "no" (N) response was valued as 0; $n = 1058$, $r^2 = 0.47$, $X^2 = 260.56$, and $p << 0.005$. The fitted regression accounted for 47 percent of the variation in the probability of death, while the ISS and modified TS accounted for 22 and 31 percent, respectively.

A comparison was made between the ISS values calculated from hospital discharge sheets and the TR-generated ISS values for patients admitted directly to the MIEMSS Shock Trauma Center and without cardiac arrest between July 1983 and June 1984. Only 13 percent of the scores were the same; 21.4 percent of the remaining scores differed by at least 10 ISS points.

Discussion

The MIEMSS Shock Trauma Center registry is an organized data system pertaining to a Level I trauma center. It was created in response to the need to gain a panoramic view of the effects of health care delivery within this medical facility. The uniqueness of the TR relates to the combination of its scope (encompassing the records of thousands of patients and numerous descriptors for each of those patients), accuracy, accessibility, and potential utility.

Throughout the design and implementation of the system, procedures that would ensure the dependability of the TR were adopted. By initally focusing on only the Admission Profile, we prevented inundation of the data collection and entry phases; when the mechanisms for this phase were in place the registry was expanded to include the patients' Hospital Course. Physician verification of collected data provides an obligatory means of quality assurance. Inherent checks of data

Table 2. Number of Injuries in 5,390 Patients* (July 1983 - June 1986)

Type	Number
Craniofacial	3,252
Extremities	2,223
Thorax	1,704
Spine	1,285
Abdomen, pelvis, and perineum	1,241
Neck	155

*1.83 body regions injured per patient.

Table 3. Airway Status of 5,390 Patients (July 1983 - June 1986)

Airway Status	Number of Patients	Percent of Total
Obstruction on admission		
No	5,255	97.5
Yes	135	2.5
Type on admission		
Natural	4,921	91.3
Endotracheal tube	229	4.2
Esophageal obturator	220	4.1
Tracheostomy	14	0.3
Missing	6	0.1
Intubation status		
Not intubated	3,003	55.7
Preadmission	243	4.5
Postadmission	2,144	39.7
Intubation timing (postadmission)		
First 30 min	678	31.6
Second 30 min	253	11.8
After first hour	1,213	56.6

Table 4. Glasgow Coma Scale Scores for 5,189 Patients (July 1983 - June 1986)

Score	Number of Patients	Percent of Total*
3	198	3.8
4 - 8	463	8.9
9 - 12	299	5.8
13 - 14	901	17.4
15		
With TLC**	1,334	25.7
Without TLC	1,994	38.4

*A total of 5,189 patients, excluding 201 with cardiac arrest on admission.
**TLC, transient loss of consciousness.

Table 5. Modified Trauma Score and Mortality (July 1983 - June 1984)

Trauma Score	No. of Patients	Percent of Total	No. of Deaths	Percent Mortality
3 - 7	24	2.3	21	87.5
8 - 11	113	10.7	27	23.9
12	95	8.9	7	7.4
13	198	18.7	7	3.5
14	628	59.4	9	1.4
Total *	1,058		71	

*Patient group: blunt injuries, direct admissions, no cardiac arrest on admission.

accuracy and completeness by the computer software also have been imposed on the system.

The data base was structured to provide answers to the following sample questions: What is the average GCS score at the time of discharge relative to the admission score at each level? What is the average LOS for various patient categories? What is the average length of time that certain patients are ventilated? What is the average number of infectious complications for specific types of patients? How many CT scans are required for certain brain-injured patients? Answers to those questions are now accessible.

Attributes of a large PC based data system are that it is readily available in a convenient location 24 hours a day and is relatively inexpensive. The AP and HC contain 1,623 and 1,485 variables in 6 and 20 files, respectively. The strategy is to maintain the current, evolving year and the previous three years of AP and HC data on a hard disk. This requires approximately 200 MB of space on the hard disk, which will permit access to current patient records and easy use of data, spanning more than 6,000 trauma patients at any time. The 300-MB hard disk will permit moderate expansion; however, due to the magnitude of the data base, an additional microcomputer or work station may be necessary in the next couple of years to accommodate the accumlating data and to maintain an acceptable processing speed. The results are output by the medical staff who have been trained to use the relatively simple programs. This is ideal, since the people who best understand the clinical problems and the constituents of the registry can optimally use the data base.

The TR will serve multiple purposes. It will supply valuable information in hopes of developing predictors of trauma patient outcome. The data base should help indicate expected developments in the patient's response to injury and necessary care requirements: if a facility does not have the necessary equipment or experienced personnel to provide the care a particular trauma patient will need, it should consider transferring that patient to a facility that meets those requirements. The TR should provide a documented evaluation of the existing trauma system and the effectiveness and appropriateness of its care, so that plans and protocols can be altered accordingly. Analyses will be undertaken to determine the medical, financial, and auxillary support needed to manage various types of trauma patients.

Reports from the registry will help indicate specifications about the ancillary support and personnel needed by any medical facility contemplating the establishment of a Level I trauma service. For example, 44.1 percent of the patients admitted to the MIEMSS Shock Trauma Center require CT scans; of those patients, 40.2 percent show pathologic aberrations. These facts underlie the high-yield criteria used to determine the need for a CT scan; they also emphasize that a trauma facility needs to have CT scan services 24 hours per day. In addition, the data base will be used to provide an accurate means of establishing a diagnosis-related group (DRG) reimbursement system for the multiple trauma victim.

The trauma registry is a necessary data base tool for evaluating health care delivery for trauma victims.[3-5] Analyses of existing injury indices indicate that both physiologic and anatomic descriptors[9] should be included and that these descriptors must be defined *objectively* to produce a valid, accurate trauma patient profile to ensure foreknowledge of the equipment and personnel needed to supply appropriate and efficient patient care. Comparison of ISS values computed from hospital discharge sheets and the ISS values generated by the TR emphasize the absolute necessity for an objectively generated, well-structured data base to provide accurate predictions of trauma patient mortality and morbidity.

Several tools have been developed in attempts to describe and evaluate patients with severe multiple injuries, for example, the GCS,[8] the TS,[9-11] the ISS,[12-14] and the Abbreviated Injury Scale (AIS).[14] The intent of

Table 6. Glasgow Coma Scale Score and Mortality (July 1983 - June 1984)

GCS	No. of Patients	Percent ofTotal	No. of Deaths	Percent Mortality
3	30	2.8	23	76.6
4 - 5	31	2.9	11	35.5
6	18	1.7	4	22.2
7 - 8	35	3.3	2	5.7
9 - 12	63	6.0	4	6.3
13 - 14	214	20.2	10	4.7
15	667	63.0	17	2.5
Total	1,058*		71	

*Patient group: blunt injuries, direct admissions, no cardiac arrest on admission.

Table 7. Injury Severity Score and Mortality (July 1983 - June 1984)

ISS	No. of Patients	Percent of Total	No. of Deaths	Percent Mortality
1 - 5	333	31.5	2	0.6
6 - 10	191	18.1	2	1.0
11 - 15	118	11.2	1	0.8
16 - 20	119	11.3	5	4.2
21 - 25	73	6.9	6	8.2
26 - 30	93	8.8	19	20.4
31 - 40	73	6.9	16	21.9
>40	58	5.5	20	34.5
Total	1,058*		71	

*Patient group: blunt injuries, direct admissions, no cardiac arrest on admission.

each includes the stratification of patients relative to their injuries, with the goals of assessing health care systems and therefore improving and refining injury-specific patient care. An injury severity score needs to be fine tuned to predict mortality and morbidity (infectious/anatomic complications, systems failure, LOS) accurately. It has been questioned whether the ISS and TS systems meet the rigors of methodologic assessment relative to reproducibility and validity.[12]

When using a trauma scoring system, an individual's score may be affected by how well the injuries are described; a poor depiction may prevent a true assessment of the tool's validity. The discrepancy in ISS values generated from the TR compared with the hospital discharge data obtained via the International Classification of Diseases is multifactorial. A TR ISS value higher than the hospital discharge ISS value for the same patient was determined to be secondary to the former's more specific injury data of the TR. A TR ISS lower than the hospital discharge ISS value for the same patient was determined to be secondary to the latter's nebulous, multiple potential entries for a brain-injured patient, leading to excessively high ISS/AIS codes.

In the TR used at the MIEMSS Shock Trauma Center, every patient's injuries are classified specifically and minutely, leaving no "choices" as to category: if the patient has injury X, he/she is entered in a specific category X, and any other patient with injury X will also be entered in category X. Virtually all Admission Profile and Hospital Course data elements are likewise well delineated to enhance the development of an accurate data base.

Plans for the immediate future of the TR include the incorporation of additional prehospital information and expansion of the hospital course to the posthospital phase. To ensure validity of the equation used to determine the probability of death, a prospective assessment needs to be performed on another population. The addition of anatomic injury parameters may enhance the predictability of mortality. Future analyses will determine more definitively which of the currently collected data need not be collected and which need to be expanded, for example, adding cognitive function scores for assessing brain injury. Extensive analyses will be undertaken to evaluate AP and HC variables relative to their predictability of mortality and specific morbidities.

In any facility, the overall goal of a trauma registry is to develop a more efficient trauma care system, leading to cost-effective planning and utilization of personnel, skills, and equipment and ultimately to optimal social reintegration for the trauma victim.

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Use of Health and Rehabilitation Services Following Head Injury

ARLENE I. GREENSPAN PT, MPH; ELLEN J. MACKENZIE PhD; JAMES CHRISTENSEN MD; and CAROLE ROBEL BA

The impact on public health of head injury as a major source of death and disability, especially among adolescents and young adults, is well recognized. In Maryland the primary annual incidence of head injury severe enough to result in death or hospitalization has been estimated to be 149 per 100,000 population.[1] These figures are comparable to national and other regional estimates reported in the literature.[2-5] Improvements in the acute care management of head injury have generally led to improved survival.

The case fatality rate associated with head injury in 1986 is estimated in Maryland to be approximately 16 percent, resulting in 5,600 survivors of injury serious enough to require hospitalization. Of these survivors, estimates are that 72 percent, 17 percent, 9 percent, and 2 percent sustain minor, moderate, severe, and very severe injuries respectively.[1]

Both increased survival and improved recognition of posttrauma functional disability have added to the demand for rehabilitation services. Several studies have acknowledged the importance of rehabilitation as a factor in outcome from head injury,[6-8] yet little is known about the extent to which various services are being used or the factors that influence access to services and the level of use. To better address these issues in Maryland a "needs" survey was conducted to provide insight into current use for a population of adolescents and adults who reside in Maryland and have sustained a significant head injury.

Methods

Study Population The Maryland Head Injury Foundation (MHIF) needs-assessment survey was administered in 1986 to 74 head-injured adolescents and adults or their families, who were identified from the MHIF mailing list. Approximately 68 percent of the head-injured persons were 19 or older at the time of injury. The median time since injury was four years; 20 percent had been injured one year or less, 43 percent within two to five years, and 36 percent greater than five years. Head- injured patients made up 23 percent of the interviewees; the remainder were parents or other relatives. Although the sample may not be representative of the head-injured population in Maryland, it assisted the Foundation in learning the needs of their membership and in identifying underserved populations for outreach services.

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Survey Instrument Interviews were conducted by volunteers of MHIF and covered a broad range of sociodemographic and injury characteristics with emphasis on describing head-injured patients' functional status at the time of the interview, the types of rehabilitation services individuals received following head injury, their perceived unmet need for services, and reasons for not obtaining those services.

Functional Status Three measures of functional status were used in this study: (1) self-assessed limitation in daily activities, (2) inability to engage in a productive role, and (3) need for a primary caregiver.

Activity limitations of the patient at the time of the interview were determined by asking whether the head-injured person currently had difficulty performing a series of activities considered normal for an adult in good physical health. Activity items were taken from a number of sources including the pretest of the Post-Census Disability Survey[9] and the National Long-term Care Survey.[10] They were chosen to represent the three major dimensions of physical function as defined in the literature: self-care, mobility, and physical capabilities.[11] Self-care included the five basic activities of daily living (ADL): feeding, bathing, dressing, toileting, and bed transfer. Mobility was determined using three items measuring the subject's ability to get around his or her home, the neighborhood, and the ability to use public transportation. Activities used to measure physical capabilities included walking a quarter of a mile, walking up and down stairs, and standing for long periods. For each of the above activities, respondents were asked whether the head-injured person had difficulty performing the activity. For purposes of summarizing functional status, study participants were regarded as limited in any of the categories if they had difficulty performing at least one activity in that area. Although activity limitations are primarily a result of impairment in physical function, cognition also plays a role in independent performance for most of the activities.

Individuals were classified as having a productive role at the time of the interview if they were engaged in full-time or part-time employment, enrolled in school or vocational training, or keeping house. Those who answered that the head-injured person was retired and on disability or engaged in some "other" activity were

Table 1. Sociodemographic and Economic Characteristics by Interval since Head Injury

Characteristic	Total (N=74) (percent)	Time Interval (Years) ≤1 (N=15) (percent)	2-5 (N=32) (percent)	>5 (N=27) (percent)
Age at interview				
≤18	10.9	26.7	12.6	0.0
19-35	59.4	53.3	65.6	55.5
>35	29.8	20.0	21.9	44.4
Sex				
Male	67.6	60.0	84.4	51.4
Current marital status				
Married	24.3	13.3	28.1	25.9
Widowed, separated, or divorced	9.5	20.0	6.3	7.4
Never married	66.2	66.7	65.6	66.7
Education				
Did not complete h.s.	17.6	26.7	18.8	11.1
Completed h.s. or equivalent	31.1	26.7	31.3	33.3
Some college	51.4	46.7	50.0	55.6
Current total yearly household income (dollars)				
<10,000	6.8	0.0	0.0	18.5
10,000-19,999	4.1	6.7	3.1	3.7
20,000-39,000	24.3	26.7	21.9	25.9
≥40,000	28.4	26.7	31.3	25.9
Refused or doesn't know	36.5	40.0	43.8	25.9
Usual activity prior to head injury				
Working full-time	41.9	46.7	40.6	40.7
Working part-time	2.7	0.0	3.1	3.7
Laid off; looking for work	2.7	0.0	6.3	0.0
School	41.9	46.7	34.4	48.1
Retired	2.7	6.7	3.1	0.0
Other	5.4	0.0	12.5	0.0
Doesn't know	2.7	0.0	0.0	7.4
Current usual activity				
Working full-time or part-time	21.6	13.3	12.5	37.0
Vocational training	4.1	13.3	3.1	0.0
School	17.6	26.7	21.9	7.4
Retired/disability	9.5	6.7	12.5	7.4
Keeping house	6.8	0.0	6.3	11.1
Other	40.5	40.0	43.8	37.0
Current health insurance benefits				
No insurance	8.1	13.3	9.4	3.7
Medicare	23.0	13.3	21.9	29.6
Medicaid; other gov't program	14.9	6.7	18.7	14.8
Private insurance	51.4	66.7	46.9	48.1
Doesn't know	2.7	0.0	3.1	3.7
Current disability benefits				
Unemployment comp.	5.4	6.7	9.4	0.0
Welfare payments (such as SSI or AFDC)	13.5	20.0	12.5	11.1
Social Security	37.8	26.7	46.9	33.3
Workers compensation	5.4	6.7	9.4	0.0
Private disability insurance	9.5	6.7	9.4	11.1

counted as nonproductive. Most individuals who answered "other" reported that the head-injured individual spent most of the day at home not engaged in any particular activity.

Members of the study population were considered independent if interviewees responded that the head-injured person did not identify the need for a primary caregiver.

Use of Services Respondents were presented with a comprehensive list of rehabilitation and social services and asked about the use of each service by the head-injured person and his/her family. Services were classified into six broad categories: medical care, rehabilitation services, counseling or psychotherapy, educational and employment assistance, social services, and information and referral. For each service, respondents were asked whether the head injured had ever used, currently was using, or had needed but had not received the service. For services needed but not received, respondents were given a list of reasons and were asked to indicate one or more reasons for not obtaining those services.

Findings

As shown in Table 1, the majority of the head-injured individuals were male (68 percent), aged 19 to 35 years at time of interview (58 percent), and had never been married (66 percent). Although these characteristics are fairly typical of a head injured population,[2-5] educational attainment was higher than expected with more than 80 percent reporting either completion of high school or some college attendance and more than half the population reporting they had some college education. This is considerably higher than the findings of Mackenzie et al.[12] who surveyed trauma patients discharged from the Maryland Institute for Emergency Medical Service Systems (MIEMSS) shock trauma unit, the statewide specialty referral center for neurotrauma. Of the trauma patients surveyed from MIEMSS who had sustained head injury, 66 percent had completed high school or had some college and only 21 percent had some college education.

Respondents also reported high household incomes with 53 percent of the population reporting yearly family earnings of $20,000 or greater at the time of the interview and 28 percent reporting earnings of more than $40,000. High household earnings may reflect both the educational attainment of the family and the disability benefits received by the head-injured person.

At the time of interview only 22 percent of the head-injured individuals working (16 percent full-time and 5 percent part-time), compared to 46 percent who were working prior to injury (42 percent full-time and 3 percent part-time). However, if the data are disaggregated

by time interval since injury, the differences in employment decrease somewhat over time. Whereas none of the head injured had returned to work within one year of injury, 37 percent of those who had sustained a head injury six or more years prior to the interview had returned to work. At time of interview, 18 percent were enrolled in school and 4 percent were enrolled in a vocational training program (participation in both of these activities decreased with time since injury), whereas prior to injury 42 percent were enrolled in school. Moreover, at the time of interview close to 10 percent reported the head injured as retired and on disability and approximately 40 percent reported his or her usual activity as "other." This is compared to 5 percent who were retired or reported "other" as their usual activity prior to injury.

More than half (51 percent) the population reported having private insurance, 23 percent Medicare, 11 percent Medicaid, and 8 percent reported having no insurance. The proportion of head-injured persons having private insurance was greatest for those who had been recently injured, while those who had been injured more than five years ago were more likely to have Medicare. The proportion of head-injured subjects having no insurance decreased as time since injury increased. Social Security was the most common disability benefit received (38 percent), followed by welfare payments (14 percent). Head-injured persons were least likely to receive unemployment or workers compensation (5 percent).

Characteristics Related to Head Injury

Severity of head injury was determined by length of coma, as reported by the respondent (Table 2). The population surveyed was skewed toward the more severe range of head injury, with 27 percent reporting coma greater than six weeks and approximately 58 percent reporting coma from two days to six weeks. Only 15 percent of the population had been in coma less than or equal to 24 hours. Those injured during the previous year were somewhat less likely to have been in coma one day or less (7 percent) than those injured two or more years ago (17 percent). Those injured more than five years ago were most likely to have had a very severe head injury with 35 percent having been in coma more than six weeks, although these differences were not statistically significant.

The primary cause of injury was due to motor vehicle crashes (74 percent), with approximately 86 percent of those due to occupant injuries and the remainder due to pedestrian injuries. An additional 8 percent were due to falls, and 5 percent were due to assault. Close to half the injuries (47 percent) were not accompanied by secondary injuries or were accompanied by facial injuries only. The most common injury to occur with head injury was an extremity injury, with or without abdominal injuries (36 percent). In addition 12 percent sustained chest or internal injuries, and 7 percent sustained spine or back injuries.

Functional Status

Activity limitations, nonproductive role in society, and lack of independence were used to describe the functional status of the head injured patient at the time of the interview. Overall, 35 percent had limitations in at least one ADL, 42 percent reported at least one limitation in mobility, and 45 percent reported at least one limitation in physical capabilities (Table 3). Half the population was not engaged in a productive role at the time of the interview. Even individuals who had sustained trauma more than five years ago continued to report functional impairment with approximately one third reporting activity limitations and almost half not engaged in a productive role. This is in comparison to

Table 2. Distribution of Characteristics Related to the Head Injury by Interval since Injury

Length of Coma as Reported by Respondent	Time Interval (Years) Total (N=74) (percent)	≤1 (N=15) (percent)	2-5 (N=32) (percent)	>5 (N=27) (percent)
≤1 day	15.2	7.1	17.2	17.4
2days - 6 weeks	57.6	78.6	55.2	47.8
>6 weeks	27.3	14.3	27.6	34.8

Table 3. Individuals with Limitation that Prevents a Productive Lifestyle, by Interval since Injury

	Time Interval (Years) Total (N=74)	≤1 (N=15)	2-5 (N=32)	>5 (N=27)
Percent with activity limitations				
Self-care (ADL)	35.2	33.4	40.7	29.6
Mobility	41.9	46.6	50.0	29.6
Physical capabilities	44.6	40.0	53.2	37.0
Percent not engaged in productive role	50.0	46.7	56.8	44.4
Percent with primary caregiver				
Independent	39.2	20.0	46.9	40.7
Parent or other relative	47.3	73.4	31.2	51.8
Professional	13.5	6.7	21.9	7.4

Table 4. Individuals who Currently Receive or Have Received Services by Individual Service and Interval since Injury

Type of Service	Total N=74 (percent)	Time Interval (Years) ≤1 N=15 (percent)	2-5 N=32 (percent)	>5 N=27 (percent)
Medical care				
Medical services	83.8 (39.2)*	86.6 (53.3)	84.4 (46.9)	81.5 (22.2)
Rehabilitation				
Services	91.4 (40.8)	100.0 (80.0)	93.9 (25.1)	88.8 (37.0)
Occupational therapy	71.7	93.3	71.9	59.3
Physical therapy	83.8	100.0	81.2	77.8
Speech therapy	74.3	93.3	71.9	69.2
Behavior therapy	58.1	66.7	59.4	53.9
Cognitive therapy	64.8	80.0	65.7	55.5
Training in social skills	43.2	53.4	50.0	29.8
Counseling				
or psychotherapy	90.6 (59.6)	86.7 (86.7)	87.6 (50.1)	88.8 (55.5)
Individual counseling	79.7	80.0	75.0	85.1
Counseling with a peer	37.9	46.7	37.5	33.3
Group counseling	40.5	53.3	37.5	37.0
Support group	47.3	66.7	37.5	48.1
Psychological therapy	71.6	66.7	78.1	66.6
Family counseling	35.1	60.0	46.9	7.4
Educational & employment				
assistance	52.8 (24.4)	53.4 (40.1)	50.1 (28.2)	55.5 (11.1)
Employment counseling	36.5	33.4	28.2	48.1
Educational counseling	35.1	66.7	37.5	48.1
Placement in paid employment	12.2	6.7	9.4	18.5
Placement in sheltered workshops	5.4	0.0	0.0	14.8
Work training	24.4	13.3	21.9	33.3
Social services	63.7 (32.4)	80.0 (59.9)	62.5 (34.4)	55.5 (14.8)
Transportation	28.4	46.6	25.0	22.2
Respite care	9.5	0.0	15.7	7.4
Personal Care Attendant	24.3	40.0	21.9	18.5
Homemaker services	6.8	0.0	9.4	7.4
Financial management	16.3	20.0	12.6	18.5
Shopping	17.6	26.6	18.8	11.1
House Placement Assistance	9.5	6.7	9.4	11.1
Recreational services	18.9	20.0	25.0	11.1
Information & referral	37.9 (9.5)	53.4 (26.7)	40.7 (6.3)	26.9 (3.7)

*Numbers in parentheses represent percent currently receiving services.

activity prior to head injury, in which only 11 percent of the head injured were reported as not engaged in a productive role.

Thirty-nine percent reported they were independent at the time of the interview. Forty-seven percent reported the primary caretaker to be a relative and of those, 77 percent were parents. The remaining 14 percent reported that a professional was the primary caretaker, further demonstrating that the MHIF population continued to display significant disability. This is echoed in terms of where the head-injured subjects were living at the time of interview. Close to half (46 percent) were living with their parents; 19 percent were living in a skilled-nursing home, extended-care facility, or group home; and only 35 percent were living in their own home. As expected, the proportion of head injured persons who were independent and living in their own home increased over time, so that while only 20 percent and 13 percent were independent and lived in their own home up to one year postinjury, these proportions increased to 41 percent and 52 percent, respectively, for those who had been injured more than five years ago.

Use of Rehabilitation and Social Services

As shown in Table 4, use of rehabilitation services was variable with some services demonstrating much higher use rates than others. A comparison of use of services by category revealed variation in the percent who used services among the six categories identified. Moreover, when categories were disaggregated by type of service, differences within groups also were observed. Services aimed toward maintaining individuals in the community or improving their integration into the community were less often used than services geared toward improving specific physical and mental deficits. Thus a larger proportion of head-injured patients had used medical services (84 percent), rehabilitation services (91 percent), and counseling (91 percent) than had used education and employment assistance (52 percent), social services (63 percent), and information and referral services (38 percent).

Examination of within-group differences revealed variation for all categories containing multiple services. Within the area of rehabilitation, study participants were more likely to have received services that focused on sensorimotor and perceptual skills such as physical therapy, occupational therapy, and speech therapy (84 percent, 71 percent, and 74 percent respectively) than services that focused on improving behavior or cognition. For example, only 65 percent reported that the head-injured patient had ever had cognitive therapy, 58

percent behavior therapy, and 43 percent training in social skills.

Receipt of counseling or psychotherapy likewise showed variation by type of service received. Whereas services aimed toward individual psychotherapy or counseling demonstrated high use (80 percent and 72 percent respectively), a much smaller proportion of the population had made use of support groups, group counseling and/or family counseling (47 percent, 40 percent, and 35 percent respectively).

When employment and educational services were examined by specific service, it was found that more patients had received educational or employment counseling (35 percent and 37 percent) than specific work training (24 percent) or placement in either paid employment (12 percent) or sheltered workshops (5 percent).

Finally, examination by type of service revealed that head-injured patients were least likely to have received social services. For example, only 10 percent had ever used respite care, 28 percent transportation services, and 10 percent house placement assistance. Similarly, relatively small percentage had ever used information and referral services (38 percent).

As expected, the proportion of head-injured subjects receiving services at the time of interview decreased as time interval since head injury increased. However, a surprisingly large proportion of individuals who had been injured more than five years prior to the interview reported that they were receiving individual counseling (41 percent) at the time of interview.

Unmet Need and Reasons for Not Obtaining Services

Respondents also were asked whether specific services were needed but had not been received (Table 5). Perceived unmet need varied considerably by specific type of service. For services used by a large proportion of the population, perceived unmet need was quite low. However this in part may have been due to the way the question was phrased. Only individuals who had not received services were asked whether they needed the service. We do not have a measure of whether more services might have been needed for those who reported they had received some services. For services that were less used, perceived need varied as well.

For many services, need was highest for those who had sustained head injury more than five years ago. For example, although no one who was injured within the previous year reported need for family counseling, 26 percent of individuals who had been injured more than five years ago reported need for family counseling. Unmet need was generally highest for information and referral services (30 percent) and specific social services including respite care (20 percent), transportation (12 percent), recreational services (14 percent), and house placement assistance (10 percent). Need was quite low for other social services including personal care attendant services (3 percent), homemaker services (4 percent), financial management (4 percent), and shopping (3 percent). This may be due to the small proportion of head-injured victims from this sample who were living independently.

For services aimed at educational and employment assistance, need was highest for assistance with placement in paid employment (12 percent) and work training (8 percent), and lowest for employment counseling (4 percent) and placement in sheltered workshops (4 percent).

By far the most common reason given for not obtain-

Table 5. Individuals Who Did Not Receive but Indicated They Needed Services by Individual Service and Interval since Injury

	Time Interval (Years)			
Type of Service	Total N=74 (percent)	≤ 1 N=15 (percent)	2-5 N=32 (percent)	5 N=27 (percent)
Medical care				
Medical services	1.4	0.0	0.0	3.7
Rehabilitation services				
Occupational therapy	2.7	0.0	3.1	3.7
Physical therapy	1.4	0.0	3.1	0.0
Speech therapy	1.4	0.0	0.0	3.7
Behavior therapy	5.4	0.0	6.3	7.4
Cognitive therapy	8.1	6.7	9.4	7.4
Training in social skills	9.5	0.0	12.5	14.8
Counseling or psychotherapy				
Individual counseling	4.1	6.7	0.0	7.4
Counseling with a peer	9.5	0.0	9.4	14.8
Group counseling	8.1	6.7	3.1	14.8
Support group	5.4	6.7	3.1	7.4
Psychological therapy	2.7	6.7	0.0	3.7
Family counseling	3.5	0.0	9.4	25.9
Educational & employment assistance				
Employment counseling	4.1	0.0	0.0	11.1
Educational counseling	6.8	6.7	3.1	11.1
Placement in paid employment	12.2	0.0	12.5	18.5
Placement in sheltered workshop	4.1	0.0	6.3	3.7
Work training	8.1	0.0	9.4	11.1
Social services				
Transportation	2.2	0.0	12.5	18.5
Respite care	20.3	20.0	12.5	29.6
Personal care attendant	2.7	0.0	0.0	7.4
Homemaker services	4.1	0.0	6.3	3.7
Financial management	4.1	6.7	3.1	3.7
Shopping	2.7	0.0	0.0	7.4
House placement assistance	9.5	13.3	6.3	11.1
Recreational services	13.5	6.7	12.5	18.5
Information & referral	29.7	26.7	25.0	37.0

ing services was that the head-injured individual or family member did not know where to go to obtain the service (71 percent). In addition, 57 percent reported they were unaware the service was available, and 43 percent reported that no referral had been made. A much smaller proportion of respondents listed expense (25 percent), lack of seriousness of problem (20 percent), geographic accessibility (18 percent), eligibility (7 percent), difficulty in getting an appointment (7 percent), inability to get there (4 percent), or inconvenient office hours (4 percent) as reasons for not obtaining services.

Discussion

Although the generalizability of the findings is limited due to small sample size and the heterogeneity of the population with respect to age, severity, and length of time since injury, the findings provide some initial insights as to the current use of services by the head-injured population in Maryland and where gaps in service delivery may exist. The emphasis of this analysis is descriptive, pointing to patterns in use of services following head injury and perceived need for additional services. Survey results indicated that most of the head-injured population had received some rehabilitation services following injury. However several factors, including the high level of income and education of the population, the large proportion of individuals with severe head injury, and the fact that study participants were from the MHIF mailing list may have biased the results toward a higher level of service use and a lower level of unmet need than might be expected in a more representative population of head-injured persons.

Despite the high level of use of services overall, examination by type of service revealed gaps in both use and perceived need for services. Individuals were least likely to receive social services, educational/employment services, and information and referral services. These services tend to be needed once the head-injured person is living in the community and usually are not part of the initial phase of rehabilitation (for example, vocational training). This is in contrast to services which displaying high use rates such as medical, rehabilitation, and counseling services that are more typically initiated early during the acute care or rehabilitation process. However, even within specific groups of services that demonstrated high use rates, variation in use of service was observed. For example, physical, occupational, and speech therapy had been used by a much larger proportion of the population than were cognitive therapy, behavior therapy, or training in social skills. Yet many clinicians and researchers have noted that behavioral and cognitive deficits are more likely to limit function than are physical deficits.[13]

Individuals who had been injured more than five years ago were less likely to have received some services than those who had been injured more recently. Although in many cases these differences were not statistically significant, it does suggest that access to rehabilitation has improved in recent years. It also may indicate that individuals who had previously sustained head injury and did not receive services may still need specific services.

Need was greatest for information and referral services. Close to 30 percent reported they needed but had not received such services. This is further supported by the reasons respondents gave for not receiving services. Close to 75 percent of the population responded they did not know where to go to obtain needed services, and 57 percent reported they were unaware the service was available. Further outreach and better coordination in rehabilitation care is indicated.

Additional research is needed using a larger, more representative population to further examine variations in the use of rehabilitation services taking into account service intensity, matching need with service use, as well as the availability of specific services. More research also is needed to examine the influence and interaction among factors such as (1) the characteristics of the health care delivery system, (2) economic and personal resources of the family, and (3) demographic and injury characteristics of the head-injured population.

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Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

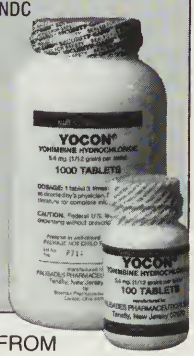
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

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Medical Care Behind Bars: Maryland Prison System

MARCEL E. SALIVE MD, MPH and T. FORDHAM BREWER MD, MPH

The inmate population in the Maryland prison system has increased dramatically over the past 10 years due to changes in sentencing by the courts. At the same time, costs of inmate health care have increased markedly following court cases mandating adequate care, an amelioration of prior inadequate standards of care. The unique demographic and disease risk characteristics of inmates predispose them to a distinct set of health problems. The state is legally obligated to provide health care to individuals sentenced to confinement in state prisons. It is often the first care these individuals have received in many years.

The degree of civilization in a society can be judged by entering its prisons. Dostoyevsky

The courts have long maintained the right of inmates to receive necessary medical care during incarceration. During the 1970s this right was extended through class-action suits, based on the eighth amendment to the Constitution, which protects against "cruel and unusual punishment."[1] Medical care systems prior that time are described as dismal,[2] and they changed very slowly in response to legal challenges.[3-4] We describe the medical challenges of inmate health and assess more recent changes in the Maryland prison health care system.

Inmate Characteristics

Persons convicted of a crime and sentenced to at least one year in prison are housed in the Maryland Division of Correction; those with lesser sentences usually are held in county jails. The number of inmates in the Maryland state prison system has increased 58 percent between 1979 and 1988, from 8,102 to 12,777. A large increase occurred between 1981 and 1984, with slow growth over the past four years (Table 1). In 1988, the inmate population was 96 percent male, 72 percent black, and 76 percent between ages 18 and 35. This is similar to the demographic breakdown of prisoners in the United States but obviously much different from the general population of Maryland.[5]

The average prison sentence of state inmates is 11.5 years, and inmates have served an average of 40 months. About half the entering inmates serve 18 months or less before release. There are over 20 various institutions, which can be classified by security level: pre-release, minimum, medium, and maximum. The majority of inmates are housed in medium security (69 percent), with nearly equal numbers in maximum (16 percent) and minimum/pre-release (15 percent) security. Two facilities, one for each sex, accept inmates from county jails. During the two-month intake process, the inmates are evaluated by medical and correctional personnel, prior to transfer to the other institutions.

Inmate Health Problems

Prison inmates are subject to a distinct set of medical problems deriving from two sources: the demographics of inmates and their risks factors prior to incarceration. Few medical problems are due to the prison environment itself. One of the most comprehensive studies of inmate medical problems involved 1,420 inmates entering New York City jails.[6] A physician made a diagnosis or noted a problem in 56 percent of the inmates; the most prevalent problems were drug abuse, psychiatric disorder, trauma, and alcohol abuse (Table 2).

Drug abuse is the most prevalent health problem. In the New York study, 33 percent of inmates had a history of heroin abuse, and 12 percent had been enrolled in a methadone program prior to incarceration. Overall, 41 percent of entering inmates reported drug use. A national survey of jail inmates demonstrated the close connection between incarceration and drug abuse.[7] This study found that 68 percent of local jail inmates had a past history of drug abuse, 44 percent within the month prior to incarceration, and 21 percent at the time of the offense for which they had been convicted. Maryland

Table 1. Prisoner Population by Sex and Year; Total and Per Capita Medical Care Expenditures: Maryland Division of Correction, 1979-1988

Year	Mid-year population		Medical Expenditures	
	Male	Female	Total	Per Capita
1979	7,818	284		
1980	7,507	272	$3,148,281	$ 405
1981	8,076	301		
1982	10,007	370		
1983	11,325	377		
1984	12,056	417		
1985	11,971	445		
1986	12,373	419	12,673,248	991
1987	12,312	455	13,709,501	1,074
1988	12,321	456	N/A	

SOURCE: Office of Research and Statistics, Maryland Department of Public Safety and Correctional Services.

From the Office of Health Care Services, Maryland Division of Correction, Maryland Department of Public Safety and Correctional Services and the General Preventive Medicine Residency, Department of Health Policy and Management, Johns Hopkins University School of Hygiene and Public Health, Baltimore.

The views expressed are those of the authors and do not necessarily reflect those of the Division of Correction or Department of Public Safety and Correctional Services. **Reprints:** Dr. Salive, Johns Hopkins University School of Hygiene and Public Health, 615 N. Wolfe St., Baltimore, MD 21205.

Table 2. Prevalence of Specified Problem or Diagnosis in Entering Inmates, New York City Jails, 1975

Problem	Prevalence (%)
Drug abuse	16
Alcohol abuse	5
Psychiatric disorder	13
Trauma	6
Asthma	3
Seizure disorder	2
Hypertension	3
Diabetes mellitus	1
Hepatitis	0.4
Heart disorder	1
Gastrointestinal disorder	1
Musculoskeletal	3
Genitourinary disorder	2
Gynecologic disorder	3*
Pregnancy	3*

Adapted from reference 6.
* females only

inmates are quite similar to this profile; 37 percent of inmates entering the system in 1987 had a history of intravenous drug abuse (D.Vlahov, personal communication).

The sequelae of drug abuse are also common among inmates. Needle sharing can result in transmission of hepatitis B virus,[8-9] delta agent, and human immunodeficiency virus (HIV).[10-12] Bacterial endocarditis can occur among inmates. Because injection of illicit drugs occurs in prison, overdose deaths can occur. In short-term settings such as local jails, drug and alcohol withdrawal symptoms can present during incarceration.

The high prevalence of psychiatric disorders in inmates makes this one of the major needs for correctional health services. Some individuals contend that deinstitutionalization from state mental hospitals has been followed by an increase in the number of mentally ill inmates, however there is little data to support this. Crisis management increases the need for mental health personnel in correctional facilities. Chronic management of psychiatric illness also demands a large share of correctional resources. Prevention of suicide through treatment of psychiatric disorders is a high priority.

Inmates have been found to have a higher prevalence of seizure disorder than do the general population.[6,13] While the cause of this relationship is unclear, the goal of treatment is clear: to prevent potential problems from seizures during lock-down.

Tuberculosis is a great concern of correctional health personnel because of the potential for institutional spread.[14-15] Most prison systems test incoming inmates for reactivity to purified protein derivative (PPD) and use chemoprophylaxis to prevent potential problems. A more recent concern relating to AIDS is the finding that HIV infection potentiates the development of clinical tuberculosis in those infected with both the tubercle bacillus and HIV.[16] This new development requires rigorous adherence to chemoprevention to prevent institutional outbreaks.

Mortality

In the Maryland prison system, about 20 to 25 inmate deaths occur every year. Major causes of death include AIDS, suicide, homicide, and coronary heart disease.

Although AIDS is a concern of correctional officials, fewer than 20 cases of AIDS have been diagnosed in the Maryland prison system since 1984, when the first case was found. However, blinded epidemiologic studies have found that 7 percent of inmates entering the Maryland prison system are infected with HIV.[17] For inmates, intravenous drug use (IVDU) is the major risk factor for AIDS. Studies to evaluate transmission of HIV in prison, have documented that transmission does occur at low but measurable rates.[18] Consequently, prevention programs have been established to provide all incoming inmates with AIDS education, concentrating on modes of transmission and ways to avoid transmission. These programs were set up in 1985 by the Division of Correction through a contract with Health Educational Resource Organization (HERO). Efforts are continuing through the Maryland AIDS Administration.

Violent deaths occur more frequently among inmates than among the general population. Suicide has been described as the number one killer of jail inmates, though in state prisons it is less prevalent.[19-20] Many factors lead to suicide, including psychiatric disorders, despair, and substance abuse. Homicide can result from breaches of security. Inmates may injure or kill one another or be killed or injured by guards during escape attempts. Capital punishment has not been performed in Maryland since 1961, although it was re-instituted over 10 years ago on July 1, 1978.

Medical Care in Maryland Prisons

During the 1970s, great concern developed in this country about the health care delivered to jail and prison inmates. Numerous court cases, such as *Estelle v. Gamble* have addressed "the deliberate indifference to the serious medical needs of inmates." A national effort, funded by the Law Enforcement Assistance Administration, developed into first the American Medical Association (AMA) Minimum Health Care Standard

for Corrections, which eventually became the National Commission on Correctional Health Care Standards.

Maryland was involved in the early stages of these developments. However, the Division of Corrections later withdrew, after being instructed by the state legislature that Maryland would develop its own correctional health standards. This decision resulted in the convening of a task force in 1979, which culminated in the enactment of Article 31, Section 70C, in July 1980, establishing the Maryland Commission on Correctional Standards.

The Commission developed a set of standards and inspects correctional facilities for compliance with these standards, which emphasize the presence of policies and procedures, without much mention of quality, type, and availability of care. For example, the standards do not address dental care despite a legal basis for this requirement. The Commission lacks medical expertise, which adversely affects its function.

The presence of the Commission does not make the Maryland Division of Correction immune from legal actions regarding health care. The court generally uses the AMA standards as the benchmark and measures their achievement against the "community standard" (the level, type, and scope of health care available to the public in the free community). The general conflict between security considerations and health care standards is a major challenge to correctional health care providers.

Contract Health Care

The 1979 task force in Maryland also recommended the implementation of contractual delivery of all health care services. Until 1981, inmate health and mental health care needs in Maryland were provided principally by state employees, augmented by some contract employees, much like most other states. In 1981, the Division of Correction initiated its first comprehensive health care contract for the Baltimore region (which consists of the Maryland Reception, Diagnostic and Classification Center; the Maryland Penitentiary; and several pre-release units). In 1982, a contract was initiated for the Hagerstown region; in 1984 for the Jessup region; and in 1987 for the then-new Eastern Shore region. Currently, each region is contracted separately, although one company holds contracts for three regions.

Correctional health care administrators have described the driving forces behind a move to contract care as the need to control costs, to solve staffing problems, and to deal with potential court interventions. The latter, however, is illusory, in that the responsibility to assure inmate health care that meets with national and community standards still resides with the state, notwithstanding the presence of the contract.

The key benefit of contracting for health care is the improved ability to recruit and retain care providers through salaries and benefit packages that are not constrained by the state personnel requirements. In the face of the nursing shortage (correctional services are run by nursing services in many instances), the ability to offer highly competitive salary packages is a prerequisite to continued prison health care delivery.

Prison health care contracts provide comprehensive health and mental health care to each region. The contracts specify the basic nature and level of services to be provided, and include community hospitalization, inpatient infirmary and prison-based outpatient care, specialty clinics, "sick call," dental care, and inpatient mental health care. Outpatient mental health care is provided by state-employed psychologists. A central office in the Division of Correction Headquarters, the Office of Health Care Services, develops requests for proposals, awards, and monitors compliance with the contract as well as quality of care.

Financing Inmate Medical Care

During the many changes outlined above, the costs of inmate health care have risen substantially (Table 1). The cost of health care per inmate has risen from $405 to $1,074 between 1980 and 1986 (136 percent). During the same period, national health care costs increased by 68.2 percent. Costs in Table 1 do not include those for state employees, such as the state psychologists and the personnel in the Office of Health Care Services. When these figures were examined by a correctional management auditing firm in 1986, they concluded "Maryland's increased costs reflected a very minimal health care system prior to contracting." A comparison with national figures (average expenditure for health care of $1,200 per inmate in 1986), shows that Maryland provides inmate health care at below-average costs; however, the average encompasses a variety of community standards.

Inmate Medical Care

The structure of inmate medical care has parallels with traditional models of medical care as well as some contrasts. When an inmate enters the prison system, a screening history and physical examination are performed. Screening tests for tuberculosis, hepatitis, and syphilis are routinely obtained. Medical clearance is required to enter the general prison population.

Once in the general population, the inmate can access the medical system through "sick call," a common

prison-based system, whereby an inmate writes down his/her complaint and turns it in; an appointment with the medical staff is scheduled, usually for the following morning. Some triage by nurses and referral by physician assistants may occur during this process. In this way, the inmate has access to dental clinics and general medical clinics (hypertension, asthma, epilepsy,), as well as specialty clinics (optometry, neurology, urology, orthopedics, and otolaryngology). Regional infirmaries serve as the focal point for the delivery of medical services. Similarly, a regional mental health unit serves as the central point for the delivery of psychological and psychiatric services. Each region has an agreement with a nearby hospital for provision of needed inpatient care.

Conclusions

Tauxe and Patterson recently coined the term "desmoteric" as an adjective to describe medical conditions associated with imprisonment.[21] Consequently, "desmoteric medicine" may be used to refer to medical care provided in prisons. We have illustrated some unique aspects of desmoteric medicine, which make the case that it is a new subspecialty of medicine combining primary care, preventive medicine, administration, and quality assurance.

The major causes of morbidity and mortality in prison medicine are drug abuse, AIDS, suicide, trauma, violence, and injuries. Treatment and prevention are thus of paramount importance. Recent legal precedents portend continued growth in this field of specialization. Prison sentences are longer, and a larger proportion of society is entering the criminal justice system. These incarcerated individuals have a court-proved right to medical care held to a community based standard.

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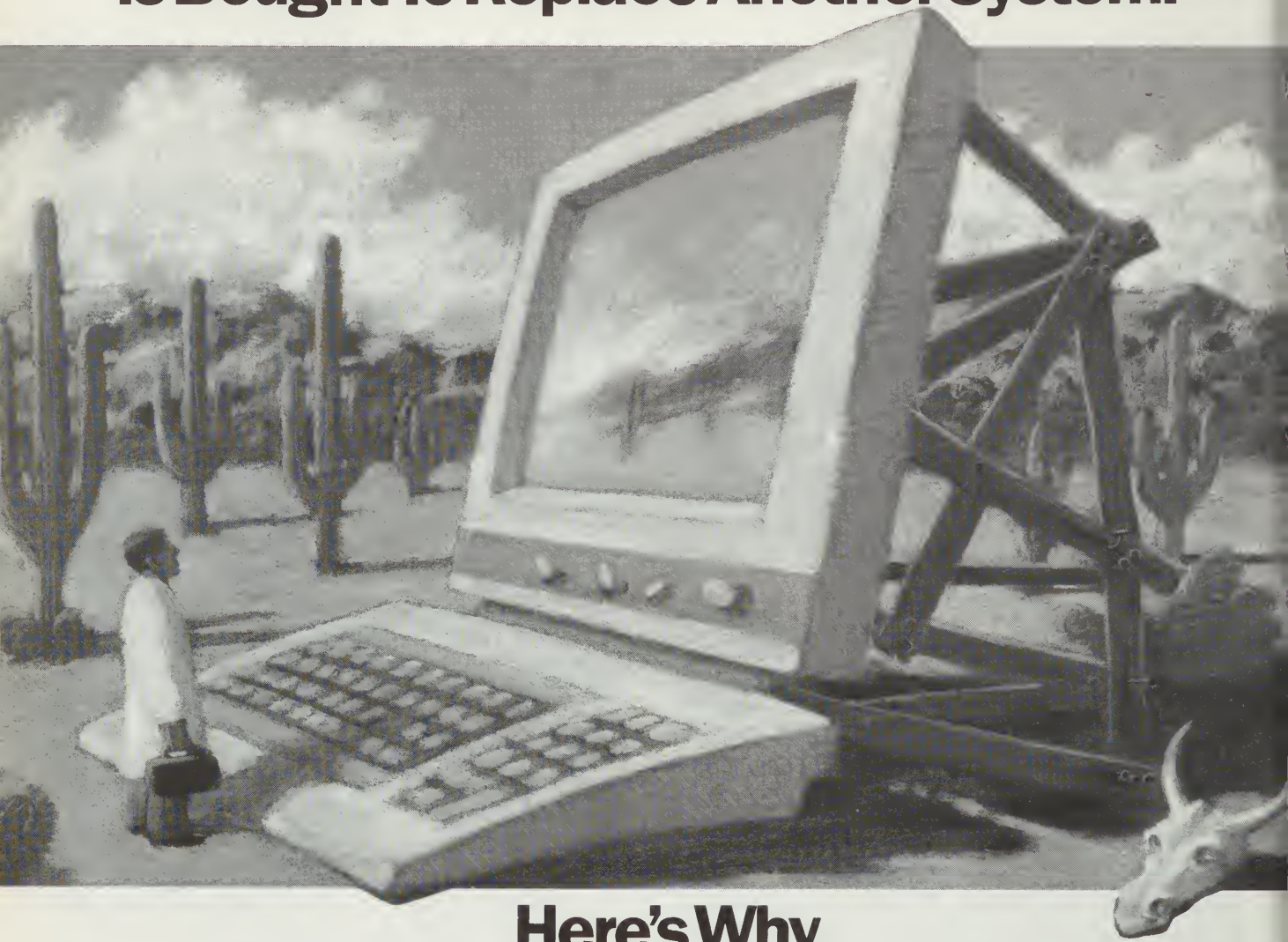
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AIDS as a Cause of Dementia in the Elderly

FRANK M. RYAN MD

Acquired Immune Deficiency Syndrome (AIDS) is frequently complicated by central nervous system (CNS) involvement. Progressive dementia is an increasingly recognized manifestation of AIDS-associated neurologic syndromes.

Mrs. A was a 76-year-old white female seen in January 1986 for evaluation of increasing confusion and dementia. A retired accountant, she continued to do tax preparation. She and the family noticed initial difficulty with calculation and a short-term memory deficit. She had fallen several times at home, but a CT scan performed as an outpatient revealed only some cerebral atrophy consistent with her age. Alzheimer's disease was thought to be the most likely diagnosis at this time.

Between January 1986 and June 1986 her mental decline accelerated rapidly. She developed increasing ataxia and incontinence. Her appetite was poor, and she experienced a 40 to 50 pound weight loss. Generalized alopecia developed. Thyroid functions and serum B12 level were normal. Physical examination was unremarkable during this period except for a broad-based gait. Deep tendon reflexes were 2+ and symmetrical. No pathological reflexes were noted.

The patient's past medical history was remarkable only for some mild essential hypertension managed with HCTZ 50 mg qd. She also had moderately advanced osteoarthritis that was managed with salicylates. There was a history of recurrent urinary tract infections. There was no history of recent travel. The patient had never received a blood transfusion. She was a widow whose husband had died of a non-Hodgkins lymphoma. He had undergone successful open heart surgery for coronary artery disease in 1979. There was no history of any sexual contacts after his death.

Following a fall at home, the patient was admitted to the hospital on June 22, 1986.

Physical Examination

The patient was a well-developed but chronically ill white female in no acute distress. Temperature - 99°F , BP - 130/78, P - 76, and regular R - 12.

Her pupils were equally round, reactive to light and accommodation. External ocular muscles were intact. Fundoscopic examination revealed flat disc margins. A:V ratio was 1:3. No hemorrhages or exudates were noted. Her canals were clear. Tympanic membranes were intact. She was edentulous. The neck was supple. Thyroid was not palpable. There was no palpable adenopathy. Chest was clear to percussion and auscultation. No cardiac murmurs, rubs, masses or gallops were noted. Abdomen was soft and nontender. No masses or organomegaly was noted. There was no peripheral edema. Pulses were intact in the upper and lower extremities. No carotid bruits were noted. The patient did exhibit Heberden's nodes at the distal interphalangeal joints of the hands bilaterally. Crepitations on range of motion were noted bilaterally in the knees. The patient was confused to time but oriented to person and place. Cranial nerves II-XII were intact, and no focal neurological signs or pathologic reflexes were noted. Deep tendon reflexes were mildly hyperreflexic without clonus.

Dr. Ryan practices in Fort Washington, MD.

Laboratory

Hematocrit was 37 percent with normochromic, normocytic indicies. WBC was 3,700. Differential showed 82 percent Segs., 3 percent Eos., 1 percent Baso., and 14 percent Lymphs. Initial chemical profile revealed an Alk Phosp of 310, SGOT 76, LDH 192, SGPT 33, and a Uric Acid of 4.0. Her EKG revealed only some nonspecific ST-T waves. UA showed TNTC WBCs. Subsequent urine culture grew more than 100,000 colonies of *Pseudomonas* species. Sed rate was extremely elevated at 128 mm/hr and remained in this range on repeat determinations.

Hospital Course

The cause of the patient's rapid mental decline was still unclear. A repeat CT scan was obtained because of the recent fall. No mass lesion or bleeding was noted. Cerebral atrophy with a questionable increase in ventricular size from the previous scan several months before was noted .

With the suggestion of increasing ventriculomegaly, a radionucleotide ventriculogram was performed. This revealed no activity over the convexities of the cerebrum at 48 hours and very little activity at 72 hours. It was thought the patient might have had a normopressure hydrocephalus. LP done at the time of the tap revealed 1 WBC and 72 RBCs. Cryptococcal antigen was negative. Protein and glucose were not obtained. A decision was made to perform a ventriculoperitoneal shunt, but the surgery had to be postponed because the patient had become febrile. The initial source of fever was believed to be her urinary tract. She had been treated with oral Geocillin, but when the fever developed she was switched to intravenous (IV) piperacillin and gentamicin. Repeat urine culture still showed infection

with greater than 100,000 col. of *E. coli*, which was sensitive to both of her IV antibiotics.

Additional evaluation of her GU tract was undertaken. A renal sonogram was remarkable only for a right peripelvic cyst in the kidney. CT scan of the abdomen was negative for perinephric abscess. PPD and mumps skin tests were both nonreactive. FANA and LE preps were negative. The patient's fever persisted with daily spikes to 103°F despite the IV antibiotics.

Chest X-ray showed the development of a hazy infiltrate in the left upper lobe. CT scan confirmed the infiltrate and showed adenopathy in the left hilar region. *Brucella* titer was negative. *Salmonella* titers were negative. Febrile agglutinins including Proteus OX-19 were negative at 1:80. Toxoplasmosis titer was negative at 1:16. Cytomegalovirus (CMV) titer was 1:57, with values in excess of 1.15 considered to be indicative of a high level of antibody. Because of the elevated CMV titer, an HTLV-III (HIV) titer was obtained. This was positive and was confirmed with a Western Blot test.

Because of the positive HIV titer, a closed lung biopsy was performed. Numerous cluster of *Pneumocystis carinii* were seen in the biopsy specimen. The patient was switched to IV septra. Her clinical course continued to decline. She developed generalized seizures just prior to her death on July 23, 1986. Autopsy and brain cultures through the NIH could not be arranged in a timely fashion and were not done.

Discussion

The diagnosis of AIDS was delayed because the patient clearly did not fit into any recognized risk group for this infection. The presumed route of infection was through her husband and his previous blood transfusion. By the time the diagnosis of AIDS was made, no accurate sexual history could be obtained. Her husband had been incontinent and had fallen on several occasions with lacerations just prior to his death in 1982, but neither of these facts are generally recognized as usual modes of transmission of the virus. There was no history of drug abuse or blood dyscrasias.

Her normopressure hydrocephalus presents an alternative explanation for the dementia that cannot be completely discounted. Radionucleotide scanning has not routinely been done in AIDS patients with dementia, and no findings of such scans could be found in the literature. Her overall clinical course with only a suggestion of increasing ventricular size, the rapidly progressive dementia over six months, her weight loss and alopecia, and her positive antibody for HIV and subsequent death from *P.carinii* argue strongly in favor of CNS involvement with HIV as the unifying cause for her condition. I believe the patient died as a result of the so-called AIDS dementia complex.

This case is unusual from a number of standpoints. A review of the literature makes it clear that AIDS in patients aged 65 and older is rare. Patchenik et al. described a 71-year-old previously healthy wife of a hemophiliac who developed recurrent thrush and onychomycosis one year prior to her husband's diagnosis of AIDS.[1] The wife subsequently developed *P. carinii* pneumonia and died. Her only apparent risk factor was infrequent monogamous sexual contact with her husband when he was asymptomatic.

> *The present case and that described by Patchenik make it clear that frequent sexual contact or a multiplicity of sexual partners are not necessary for transmission to occur and that the syndrome can occur in the elderly if they are exposed.*

Mirra et al. described a progressive dementia in a 57-year-old male that was originally diagnosed as Alzheimer's disease.[2] This patient presented with a personality change and forgetfulness that had been observed over a five-year period. The patient lost 44 pounds during the last 18 months of his life. He had impairment of recent memory and became increasingly incontinent. He developed frontal release signs. CT scan showed generalized atrophy. LP and laboratory data were normal. At the time of presentation the patient had no known risk factors for AIDS although subsequent information did reveal a history of bisexual activity. This information was not obtained until after his death.

At autopsy no neuritic plaques or neurofibrillary tangles (both hallmarks of Alzheimer's disease) were noted. Instead, involvement with multinucleated giant cells were noted in the brain and spinal cord, promoting further investigation for HIV. Integrated sequences for DNA specific to HIV were demonstrated. These findings were highly suggestive of HIV infection. Additional studies with two other specimens from patients with confirmed Alzheimer's disease failed to show any evidence for retrovirus infection. The authors point out (as in my case) the absence of clinically evident immunodeficiency is not helpful in excluding AIDS and that clinicians and pathologists should consider the diagnosis of AIDS even in older patients who are not known to be at risk for AIDS or AIDS-related complex (ARC).

The AIDS dementia complex has been reported as the presenting or sole manifestation of HIV infection. Navia and Price reported 29 patients at risk for AIDS

who presented with cognitive, motor, and behavioral dysfunctions characteristic of the AIDS Dementia Complex either preceding or in the absence of major systemic opportunistic infections or neoplasms.[3] Six of the patients were well or showed signs of ARC at the time of the diagnosis. Half the patients survived 6 to 15 months or died without showing other manifestations of AIDS. The patients showed mental slowing and impaired memory and concentration early in the course of their illness. Most deteriorated to the point of severe dementia. Behavioral changes were common; there was apathy, loss of spontaneity, and social withdrawal. Some developed agitated psychosis and hallucinations. Leg weakness, ataxia, and other motor signs (tremor and myoclonus) were seen eventually in almost all patients. CT scan showed cortical atrophy in 25 of 26 patients studied. EEG, when done, was uniformly abnormal. Cerebrospinal fluid (CSF) studies were abnormal in 13 of 15 cases with elevated proteins and a mononuclear pleocytosis in 4 patients. One of their patients, a 36 year-old female, began to exhibit personality changes 10 months prior to admission. There was no history of risk factors to AIDS except for a transfusion for excessive vaginal bleeding 14 months prior to admission, and that history was not obtained until after the diagnosis of AIDS was established.

Navia and Price emphasize that the AIDS dementia complex is the most common neurologic complication of AIDS, and that the dementia can be the first or only complication of HIV infection.

Shiach et al. reported a 47 year-old heterosexual male who had fever of unknown origin, diarrhea, and weight loss upon return to the United Kingdom after working in East Africa for many years.[4] The patient was febrile for a four-month period. His peripheral blood lymphocyte count was depressed and his Erythrocyte Sedimentation Rate was 137 mm/hr. T-cell markers were not done. All serological markers were negative except for CMV. Just prior to his death the patient developed focal neurologic deficits. At postmortem he was found to have a poorly differentiated lymphocytic lymphoma of the cerebrum, as well as toxoplasma cysts in both cerebral hemispheres. Lung abscess yielded *Klebsiella* and *Candida albicans.* Evidence of CMV infection also was found in the biliary tree, pancreas, thyroid, and lungs. The patient had no usual identifiable risk factors for AIDS.

The epidemiology of my case (as in the preceding case) was unusual. Clearly AIDS has been associated with blood transfusion. By 1985 the CDC had reported 18 instances of blood transfusion causing AIDS. The latency period may range from several months to 5 years, with a median latency between transfusion and the onset of illness of 27.5 months.[5] Women with a history of sexual partners with AIDS are also at risk. Up to 6 percent of AIDS patients have had no known risk factors, although in half these reported cases there is an inadequate case history.[6]

As mentioned, AIDS frequently involves the central nervous system. Levy found that 39 percent of 550 AIDS patients were neurologically symptomatic and that one-third were symptomatic at the time of the presentation.[7] This figure may even underrepresent the problem as an unselected autopsy series by this group at UCSF revealed that 73 percent (30 of 41 patients) had pathologic evidence of abnormalities in the CNS. Sloan-Kettering/New York Hospital reported that 50 of 162 patients had neurological manifestations of their disease.[8]

Ho et al. were able to recover HTLV-III virus from at least one specimin from 24 of 33 patients with ARC who had neurologic symptoms.[9] They concluded that the HTLV-III virus is neurotropic, capable of causing acute as well as chronic meningitis. Sixteen of their 45 patients suffered either an acute or chronic dementia. Several of their patients did not have clinical manifestations of immunodeficiency but did have neurologic symptoms. The virus was isolated from their CNS, suggesting that the neurologic disease may occur before or in the absence of immunodeficiency. Resnick found that 22 of 23 of his AIDS patients with neurologic symptoms were seropositive in their CSF for HIV. He described a 61-year-old transfusion recipient who had dementia and who died of *P. carinii pneumonia.*[10]

Shawn et al. reported on 15 cases of CNS AIDS in infants and adults.[11] They were able to detect the HIV virus by DNA marking in 5 cases. One of their patients was a 49 year-old female who developed seizures, ataxia, and dementia. Her only risk factor was a sexual contact with an ARC patient.

The neurologic manifestations of AIDS have been reviewed by Gabuzda and Hirsch.[12] The most frequent syndrome seen is a diffuse subacute encephalitis that causes neurologic dysfunction. This has alternatively been called AIDS encephalopathy, and the AIDS dementia complex.[13] Early in the course there is cognitive dysfunction and memory loss, as was the case in my patient. Nearly half the patients develop motor dysfunction, and behavioral changes are seen in 40 percent. The clinical course usually progresses over several months to one year. Mean survival from onset of the severe dementia was less than 2 months with a range of 1 to 6 months. Late signs include ataxia, incontinence, tremor, frontal release signs, seizures, and akinetic

mutism. Coma, on the other hand, was most often a sign of systemic illness.

This syndrome appeared in 35 of 128 patients in the UCSF study by Levy,[7] and in 54 of 320 patients they reviewed. CT scan generally showed critical atrophy. MRI scan appears to be more sensitive and has shown white matter signal abnormalities in addition to the atrophy. Lumbar puncture was abnormal in 75 percent of their series, with most having a mild hypoglycorrhacia and some demonstrating a mild pleocytosis. EEG has been nonspecific. The course they describe has been one of slow progression. No treatment has been deemed effective. CMV had been suggested as an etiologic agent as well, but Ho recovered HTLV-III from CNS culture in 10 of 16 patients with dementia. All were negative for cytomegalovirus.

In addition to the subacute encephalopathy, several other neurologic manifestations have been described. An aseptic meningitis including a flulike syndrome with fever and a rash have been reported at the time of seroconversion.[14] This may occur in 5 to 10 percent of the patients and represents primary HIV infection. Late in the course, varicella zoster may cause an aseptic meningitis, but HIV appears to be the most common cause of both acute and chronic aseptic meningitis. The AIDS virus has been shown to be related to the lentivirus subfamily of retroviruses. This group has been shown to cause neurologic disease in other hosts, so the prediliction of HIV for the CNS should not be surprising.

A vacuolar myelopathy occurs in approximately 15 percent of patients with AIDS. There is a strong association of dementia in this condition. The lateral and posterior columns are involved predominantly: patients frequently have ataxia, leg weakness, upper motor neuron signs, incontinence, and posterior column deficits.[15]

Peripheral neuropathies (especially a chronic distal sensory polyneuropathy) have been reported. An acute demylenating polyneuropathy resembling Guillain-Barre syndrome also has been described.[16]

Progressive multifocal leukoencephalopathy was originally described by Astrom and colleagues in 1958 as a complication of defects in cell-mediated immunity. It is now seen almost exclusively in AIDS patients. Berger and associates recently described 12 cases and reviewed the literature.[17] They estimate that 3.8 percent of AIDS patients have this disorder. It was the presenting complaint in 8 of their patients. Limb weakness and gait abnormalities as well as visual loss and altered mental status were the most common presenting complaints. CT scan showed hypodense nonenhancing lesions, and MRI was even more specific for the diagnosis. EEG and CSF were not helpful in distinguishing this illness. They demonstrated impaired cellular immunity even in the absence of other immunodeficiency associated illnesses. In their experience no treatment was effective.

Nonviral illnesses in the CNS have been caused by toxoplasmosis, *C. neoformans, C. albicans,* a variety of mycobacteria, syphilis, aspergillus, coccidiodomycosis, and *E.coli*. CNS neoplasms have included CNS lymphoma as well as systemic lymphoma with CNS metatases and metastatic Kaposi's sarcoma.

With the ever-increasing number of persons infected with HIV, the clinician must be prepared to diagnose and treat AIDS in those who are outside the usual risk groups. Undetected AIDS should be added to the list of causes of dementia, even in the elderly.

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191st ANNUAL MEETING

Medical and Chirurgical Faculty of the State of Maryland

April 12-14, 1989

Turf Valley Hotel and Country Club, Ellicott City, Maryland

WEDNESDAY, APRIL 12, 1989

2:00 p.m.

Plenary Session - *Congressman Tom McMillen*

4:00 - 5:30 p.m.

"**AIDS: How It Will Affect Your Practice**" - *Richard S. Schulof,* M.D.,Ph.D., Hematologist, Oncologist, George Washington University Medical Center, Washington, D.C., and *Edward Kirk,* M.S., Epidemiologist.

Sponsored by the Med Chi Committee On Aids and the Center for Health Education, Inc.

"**Overview of Gynecologic Oncology**" - *Joseph Buscema,* M.D., Assistant Professor, Obstetrics and Gynecology, Johns Hopkins, and Chief, Gynecology and Gynecology Oncology, St. Agnes Hospital, Baltimore.

Sponsored by the Obstetrical and Gynecological Society of Maryland.

"**The Psychiatric and Medical Problems of the Homeless**" - *William R. Breakey,* M.D., Associate Professor of Psychiatry, Johns Hopkins Hospital and *John A. Talbott,* M.D., Professor and Chairman, Department of Psychiatry, University of Maryland School of Medicine, Baltimore.

Sponsored by the Med Chi Committee on Mental Health and the Maryland Psychiatric Society.

"**Imaging Update For The Practicing Pediatrician**" - *Eglal Shalaby-Rana,* M.D., Instructor, Department of Radiology, Johns Hopkins Hospital and *Amy Yale-Loehr,* M.D., Assistant Professor, Department of Radiology, University of Maryland Hospital, Baltimore.

Sponsored by the Maryland Chapter, American Academy of Pediatrics and the Maryland Radiological Society.

"**Caring for the Industrial Back Pain Patient: The Roles of Myofascial Pain and Manipulation**" - *Stephen M. Levin,* M.D., F.A.C.S., Director, Potomac Back Center, Alexandria, Virginia and *Norman B. Rosen,* M.D., F.A.A.P.M.R, Medical Director, Rehabilitation and Pain Management Associates, Baltimore.

Sponsored by the Med Chi Occupational Health Committee.

THURSDAY, APRIL 13, 1989

7:15 a.m.- PRAYER BREAKFAST

"**Medical Ethics - Code or No**" - *Anne Neale,* Ph.D., Bon Secours Health System, Columbia, Md..

Sponsored by the Med Chi Committee on Medicine and Religion.

8:45 a.m. - 12:15 p.m.

"**Heart Disease 1989: New Technologies And Techniques**" - Moderator, *Frank Claudy,* M.D.
"**Lasers And Heart Disease**" - *Stuart F. Seides,* M.D., FACP, FACC
Additional topics and speakers to be announced.

Sponsored by the American Heart Association, Maryland Affiliate, Inc.

8:45 a.m.

"**The Caring Physician: Back To Basic Issues**" - *Spence Meighan,* M.D., Consultant To Hospitals and Medical Staffs, Portland, Oregon.

Sponsored by Medical Mutual Liability Insurance Society of Maryland.

"**Caring With Or Without Narcotics**" - *Speaker(s) to be announced.*

Sponsored by the Med Chi Committee On Drugs.

"**Physician Assistants**" - *Speaker(s) to be announced.*

Sponsored by the Maryland Academy of Physician Assistants.

"**Medicare Fraud And Abuse**" - *Speaker(s) to be announced.*

10:45 a.m.

"The Long Term Management of the Chronic Obstructive Pulmonary Disease (COPD) Patient" - *Lewis J. Rubin,* M.D., Head, Pulmonary Division, University of Maryland School of Medicine, Baltimore.
"Pulmonary Rehabilition" - *Edward W. Schaefer,* M.D., Chief, Pulmonary Medicine, Liberty Medical Center and *Bernard Farrell,* M.D., President, Medical Staff, Howard County General Hospital, Columbia, Md..

Sponsored by the Maryland Thoracic Society.

"Breast Reconstruction" - *John Bostwick, III,* M.D., Professor of Surgery, Division of Plastic Surgery, Emory University School of Medicine, Atlanta.

Sponsored by the John Staige Davis Society of Plastic Surgeons of Maryland.

"Treating The Musicians Among Your Patients" - *Richard Lederman,* M.D., Ph.D., Director, Medical Center For Performing Artists, Cleveland Clinic Foundation, Cleveland.

Sponsored by the Med Chi Music Medicine Clearinghouse.

"The Pen Is Mightier Than The Sword - Prescription Drug Abuse" - *Nelson H. Hendler,* M.D., Clinical Director, Mensana Clinic, Stevenson, Md..

Sponsored by the Med Chi Committee On Alcoholism and Clinical Dependency, Maryland Academy of Family Physicians, and the Maryland Psychiatric Society.

"The Primary Care Physician's Role In The Management Of Acute Coronary Disease" - *Henry Meilman,* M.D., Union Memorial Hospital, Balto. and *Carl L. Tommaso,* M.D., University of Maryland, Baltimore.

Sponsored by the Maryland Academy of Family Physicians.

2:00 p.m.

"Cardiopulmonary Resuscitation - Every Patient's Right - Or Exercise in Futility?" - *Rev. Robin Whitlock,* Baltimore, *Peter E. Dans,* M.D., Baltimore, and *Michael Ryan,* Esq., Baltimore.

Sponsored by the Med Chi Professinal Ethics Committee and the Committee On Medicine and Religion.

"Lipid Measurement Issues for Clinicians" - *Gerald Cooper,* M.D., Ph.D., Research Medical Officer, Division of Environmental Health and Injury Control, Centers for Disease Control, Atlanta and *Jack DeBoy,* Ph.D., Chief, Division of Laboratory Licensure and Training, Maryland Department of Health and Mental Hygiene, Baltimore.

Sponsored by the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors.

"Long Term Outcome And Management Of Chronic Urticaria" - *Gary Rachelefsky,* M.D., Clinical Professor Of Pediatrics, UCLA Medical Center, Los Angeles.

Sponsored by the Maryland Asthma And Allergy Society.

"What To Do With The Opposite Breast" - *Elmer Hoffman,* M.D., Baltimore, *Edward Lewison*, M.D., Baltimore and *John Bostwick, III* M.D., Professor of Surgery, Division of Plastic Surgery, Emory University School of Medicine, Atlanta.

Sponsored by the Maryland Breast Society.

"Physician Quality Assurance Board" - *Speaker(s) to be announced.*

4:00 p.m.

"Are Arterial Blood Gases Obsolete: Reflections On The Evolution Of Patient Monitoring" - *John W. Severinghaus,* M.D., Professor of Anesthesiology, Anesthesia Research Center, San Francisco.

Sponsored by the Maryland Society of Anesthesiologists and the Baltimore Critical Care Society.

"Pain And Performance - Musculoskeletal And Neurologic Problems In The Performing Arts" - *Yasoma Challenor,* M.D., Professor, Department of Rehabilitation Medicine, Columbia University, New York.

Sponsored by the Maryland Society of Physical and Rehabilitation Medicine.

"Clinical Application Of 201 Thallium (STECT) Imaging In Myocardial Disease"-*Jamshid Maddhi,* M.D., Associate Professor of Medicine, UCLA School of Medicine and Director of Nuclear Cardiology Research, Cedars-Sinai Medical Center, Los Angeles.

Sponsored by the Maryland Society of Nuclear Medicine.

"Stroke In The Young" - *Robert G. Hart*, M.D., M.P.H.,

Sponsored by the American Heart Association, Maryland Affiliate, Inc., Research, Medical and Community Programs Department.

"Clinical Application Of 201 Thallium (STECT) Imaging In Myocardial Disease" - *Jamshid Maddahi,* M.D., Associate Professor of Medicine, UCLA School Of Medicine and Director Of Nuclear Cardiology Research, Cedars-Sinai Medical Center, Los Angeles.

Sponsored by the Maryland Society Of Nuclear Medicine.

"Ethical Concerns On The Care Of The Elderly" - *Speaker(s) to be announced.*

Sponsored by the Med Chi Long Term Care And Geriatrics Committee.

FRIDAY, APRIL 14, 1989

8:45 a.m. - 12:15 p.m.

"ICU Management: A Cooperative Effort" - *Rhonda Fishel,* M.D.,Assistant Surgeon-In Chief, Sinai Hospital, Baltimore.

"Update On Cataract Surgery" - *Charles Castoro,* M.D., Private Practice, Baltimore.

Additional topics and speakers to be announced.

Sponsored by the Maryland Chapter of the American College Of Surgeons.

8:45 a.m.

"Clinical Diagnosis Of Alzheimer's Disease And Other Dementias" - *Speaker(s) to be announced.*

Sponsored by the Alzheimer's Association, Baltimore Central Maryland Chapter.

Topic and speaker(s) to be announced.

Sponsored by the Med Chi Committee On Small Area Variation.

"Reanimation of the Paralyzed Face Without the Facial Nerve" - *Mark May,* M.D., F.A.C.S., Clinical Professor, Department of Otolaryngology Head and Neck Surgery, University of Pittsburgh School of Medicine.

Sponsored by the Maryland Society of Otolaryngology Head and Neck Surgery.

"Next Button Please - A Glimpse At Computer Assisted Teaching Techniques For the 1990s" - *H. G. Oster,* M.D., Baltimore and *Darrell Rigel,* M.D., Clinical Assistant Professor of Dermatology, New York University Medical Center, New York.

Sponsored by the Med Chi Continuing Medical Education Review Committee.

"Emergency Medicine: Character Of An Evolving Specialty" - *Robert K. Anzinger,* M.D., F.A.C.E.P., Riverforest, Illinois, President-Elect, American College of Emergency Physicians.

Sponsored by the Maryland Chapter, American College of Emergency Physicians.

10:45 a.m.

"Coping With Stress In The Physician's Family" - *Penelope Ziegler,* M.D., Medical Director, Bethany Center, Bethany , Pennsylvania.

Sponsored by the Med Chi Committee On Physician Rehabilitation.

"Photophoresis and T Cell Lymphomas" - *Richard L. Edelson,* M.D., Professor and Chairman, Department of Dermatology, Yale University School of Medicine.

Sponsored by the Maryland Dermatologic Society.

"AIDS, Ethics, The Duty To Warn And Refusal To Treat" - Moderator, *W. Bradley King,* M.D. *Gillian Van Blerk,* M.D., Director, AIDS Administration, *John M. Henderson,* M.D., Forensic Psychiatrist, Baltimore, *Alfred L. Scanlan, Jr.,* Esq. and *Bernard A. Cook,* Esq., Levan, Schimel, Richman and Belman, Columbia.

Sponsored by the Howard County Medical Society.

"Ophthalmological Problems Common To All Physicians" - *George Weinstein,* M.D., Professor and Chairman, Department of Ophthalmology, West Virginia University, Morgantown, West Virginia, and *Allan Jensen,* M.D., Chief of Ophthalmology, Union Memorial Hospital, Baltimore.

Sponsored by the Maryland Society Of Eye Physicians And Surgeons and the Maryland Academy of Family Physicians.

"Orthopedics Overseas" - *Kirby Von Kessler,* M.D., Baltimore, and *J. David Thompson,* M.D., Baltimore.

Sponsored by the Maryland Orthopaedic Society.

"What's New In Carpal Tunnel Surgery?" - *Neal Green,* M.D., Ft. Washington, Maryland.

Sponsored by the Maryland Society of Orthopedic, Rehabilitation and Occupational Medicine Specialists.

REGISTRATION FORM - ANNUAL MEETING

Wednesday - Friday, April 12 - 14, 1989

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_____Ticket (s) for lunch, Wed., April 12 **AND**

_____Ticket(s) for lunch, Thurs., April 13

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_____Lunch, Thursday, April 13 - .....$10.00 each $_____

_____MMPAC Cabaret, Wed., Apr. 12, 5:30p.m. .....$30.00 each $_____

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_____Prayer Breakfast, Thurs.,Apr. 13, 7:15a.m. Tickets:.....$12.00 each $_____

_____Presidential Banquet, Fri., Apr. 14, 6:30 p.m. Tickets:.....$65.00 each $_____

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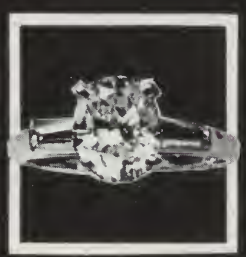
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Mar 3-4 Third Symposium on Urolotic Cancer and Surgery, Harbor Court Hotel, Baltimore. Fee: $175; 10 AMA Cat I credits.

Mar 15-17 Fifth National Traumatic Brain Injury Symposium, sponsored by MIEMSS. Fee: $149. Info: R. Schwartz, 22 S. Greene St., Baltimore, MD 21201 (301-328-6101 or 328-2478).

Mar 23 Dean's Conference #7: Preventive and Family Medicine, UMAB. Fee: $25; 5.5 AMA Cat I credits.

Apr 5 Politics and Anesthesia, the Second Annual Martin Helrich Lecture, sponsored by the Dept of Anesthesiology. University Club, Paca Redwood Bldg. Reception 4:30 p.m., lecture 5:30 p.m.

Apr 8 Topics in Cardiothoracic Medicine, Baltimore Marriott Hotel. Fees and credits to be determined.

Apr 20 Second Effective Therapies Workshop and Symposium, UMAB. Fee: $80; 6 AMA Cat I credits.

Apr 26 Dean's Conference #8: Topics in Surgery, UMAB. Fee: $25; 5.5 AMA Cat I credits.

May 5 Ninth Annual Albraham H. Finkelstein Memorial Lecture, Davidge Hall (22 S. Greene St., Baltimore), 1:30 p.m. Reception to follow. Approved for CME credit.

May 5-6 Second Symposium on Current Practices and Concepts in Endocrinology and Metabolism, Harbor Court Hotel, Baltimore. Fee: $140; 10 AMA Cat I credits.

Jun 1-4 Second Annual Trauma Anesthesia and Critical Care Symposium, sponsored by the Maryland Insitute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Development, 11 South Paca St. - Ste 303, Baltimore, MD 21201 (301-328-2399).

Jun 14-17 Dermatology Days, Sheraton Fontainebleau Inn, Ocean City. Fee: $250; 12 AMA Cat I credits.

Jun 18-23 Fifteenth Annual Family Medicine Review Course, Sheraton Fontainebleau, Ocean City. Fee: $395; 25 AMA Cat I credits.

Jun 29-30 Eighth Annual Update in Obstetrics and Gynecology, Maryland State House, Senate Hearning Room & Historic Inns of Annapolis. Fee: $175; 14 AMA Cat I credits and 14 ACOG credits.

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Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Direct all inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Mar 8-10 - Provider
Apr 13-14 - Provider
May 18-19 - Provider
Jun 15-16 - Provider
Jul 13-14 - Provider
Aug 17-18 - Provider
Sep 13-15 - Instructor
Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider

* * *

Miscellaneous Meetings

Mar 3 Treatment Resistant Depression, noon - 1:15 p.m. (lunch provided), Psychiatric Insitute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge; *registraton required, limited to 75.* 202-965-8220.

Mar 6-8 NIH Consensus Development Conference: Therapeutic Endoscopy and Bleeding Ulcers, Warren Grant Magnuson Clinical Center, NIH, Bethesda. CME credit offered. Info: Endoscopy, Office of Medical Applications of Research, NIH, Bldg 1, Rm 216, 9000 Rockville Pike, Bethesdsa, MD 20892.

Mar 18 Fourth Annual Sports Medicine and Athletic Performance Symposium, sponsored by Shady Grove Center for Sports Medicine and Rehabilitation and Georgetown University School of Medicine Office of Continuing Medical Education, and held at the Holiday Inn Crowne Plaza, Rockville, MD. 5 AMA Cat I credits. Info: K. Snowden, Shady Grove Center for Sports Medicine, 9715 Medical Center Dr. - Ste 100, Rockville, MD 20850 (301-294-0050).

Mar 31 - Apr 2 Sixth Annual Greenbrier Psychopharmacologic Symposium, sponsored by the Psychiatric Institute of Washington, at The Greenbrier, White Sulphur Springs, WV. Fee: $270 each, $430 per couple (each attending symposium); $160 students, interns, and residents (documentation requested). Info: A. Cannamela 202-965-8450.

Mar 31 - Apr 2 Symposium: Psychiatry '89, Past Reflections - Future Visions, Stouffer Inner Harbor

Hotel, Baltimore, sponsored by Taylor Manor Hospital. Info: 301-465-3322.

Apr 7 White House Cases - The Prediction of Violence in Paranoid Schizophrenics, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

Apr 12-16 Third Annual Course in Critical Care Medicine, Center for Bio-Medical Communication in cooperation with Dept of Critical Care Medicine NIH, to be held at Crowne Plaza Hotel in Rockville, MD. Fee: $695; reduced rates available to physicians-in-training and allied professionals. Info: S. Lisanti, Center for Bio-Medical Communication, 491 Grand Ave, Englewood, NJ 0731 (201-385-1808).

Apr 14 The Clinician's Approach to Oral, Head, and Facial Pain, cosponsored by Jefferson Medical College, the Delaware State Dental Society, The Medical Center of Delaware, and the University of Delaware. Held at the University of Delaware, John M. Clayton Hall, Newark, DE. Fee: $160/$85 student or resident. Info: S. Brocka, University of Delaware, 2800 Pennsylvania Ave., Wilmington, DE 19806 (301-573-4400).

Apr 17-19 Oral Complication of Cancer Therapies: Diagnosis, Prevention, and Treatment, NIH Consensus Development Conference, Masur Aduditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

Apr 20-22 Annual Meeting, The Virginia Society of Otolaryngology-HNS, The Tides Inn, Irvington, VA. Info: D. Strawderman 804-353-2721.

Apr 28-30 The 24th Annual Pediatric Springfest, presented by the Department of Pediatrics, Children's Medical Center and the Office of Continuing Education in Medicine and Allied Health Professionals at the Medical College of Virginia, Virginia Commonweatlh University. Held at the Royce Hotel, Williamsburg, VA. 13 AMA Cat I credits, 13 PREP credits, 1.3 CEUs. Info: F. Burroughs 804-786-0494.

May 5 Brief Topics in Chemical Dependency, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

May 8-10 Sunlight, Ultraviolet Radiation, and the Skin, NIH Consensus Development Conference, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

Jun 5-9 EVMS Family Medicine Review Course - Fifth Edition, Sheraton Beach Inn, Virginia Beach, VA. Info: 804-446-6140.

Temple University Winter Weekend Medical Conferences, Timberline Ski Resort, Canaan Valley, Davis, WV. Fee: $125 physicians, $75 residents/nurses; 8 AMA Cat I credits. Info: K. Saumure 215-387-3685.

Mar 3-5 Venous Insufficiency of the Lower Extremity

Mar 10-12 Advances in Cardiology/Cardiothoracic Surgery

Mar 17-19 Advances in Internal Medicine

* * *

The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

Mar 6-8; Jun 19-21 An Advanced Pediatric Life Support Course. Fee: $445; 20 AMA Cat I credits. Enrollment will be limited. Info: C. Goodell 301-955-2959.

Mar 13-15 Spectrum of Developmental Disabilities XI - Dyslexia: Clinical and Research Issues, sponsored by the Society for Developmental Pediatrics, The Kennedy Fellows Association; The Kennedy Institute for Handicapped Children, and the Johns Hopkins Medical Insitutions. Fee: $350; 20 AMA Cat I credits, 20 Cat A credits for psychologists, 2.0 CEUs. Info: C. Kearney 301-955-2959.

Mar 16-18 PET: Imaging of Brain Chemistry with special emphasis on PET as a Clincal Tool in Neurology, Psychiatry, and Neurosurgery. Fee: $390 physicians, $290 residents; 14 AMA Cat I credits. Info: J. Liston 301-955-2959 or J. Buchanan 301-955-8582.

Apr 4-5 In Vitro Toxicology - New Directions. Fee: $250 before Mar 3, $300 thereafter; 14 AMA Cat I credits or 1.4 CEU. Info: C. Kearney 301-955-2959.

Apr 6-7 Diagnosis and Treatment of Neoplastic Disorders - Medical, Surgical, and Radiotherapeutic Aspects. Fee: $250, $90 non-Maryland physicians-in-training; 14 AMA Cat I credits. Info: J. Ryan 301-955-2959.

Apr 10-12 Topics in Ambulatory Medicine IV, Harbor Court Hotel. Fee: TBA; 16 AMA Cat I credits. Info: F. Boling 301-955-2959.

Apr 24 Ophthalmic Nursing Seminar: Update '89. Fee: $65, $55 @ for groups of 7 or more. Info: F. Boling 301-955-2959.

Apr 24-26 Toxicology Update '89: Current Concepts in Inhalation Toxicology. Fee: $450; limited to 50. Info: J. Corn 301-955-2609.

May 8-13 Topics in Clinical Medicine. Fee: $630 physicians, $450 residents/PAs and nurse practitioners; 40 AMA Cat I credits. Info: C. Kearney 301-955-2959.

Jun 4-16 Second Summer Institute in Environmental Health Studies, Department of Environmental Health Sciences. Info: J. Corn 301-955-2609.

Jun 11-15 VII ISIAN: International Symposium on Infection and Allergy of the Nose - Interational Rhinology Conference, Stoufffer Harborplace Hotel, Baltimore. Fee: $475 physicians, $350 residents & fellows; AMA Cat I credit will be available. Info: Congress Secretariat 302-955-2959.

Jun 30 The Retinal Vascular Center 19th Anniversary Meeting - Macula, The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

30th Annual Postgraduate Institute for Pathologists in Clinical Cytopathology, solely for Board Certified (or qualified) pathologists as a subspecialty residency. 152 AMA Cat I credits in two courses, **both of which must be taken.**

Application and preregistration advised ASAP: preregistration must be completed **before Mar 24, 1989**, unless by special arrangement. Info: J.K. Frost MD, 604 Pathology Bldg, The Johns Hopkins Hospital, Baltimore, MD 21205 USA.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: May 8-12, Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Advanced Obstetrics and Gynecology. Apr 5-7. Fee: $325; 24 AMA Cat I credits.

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Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

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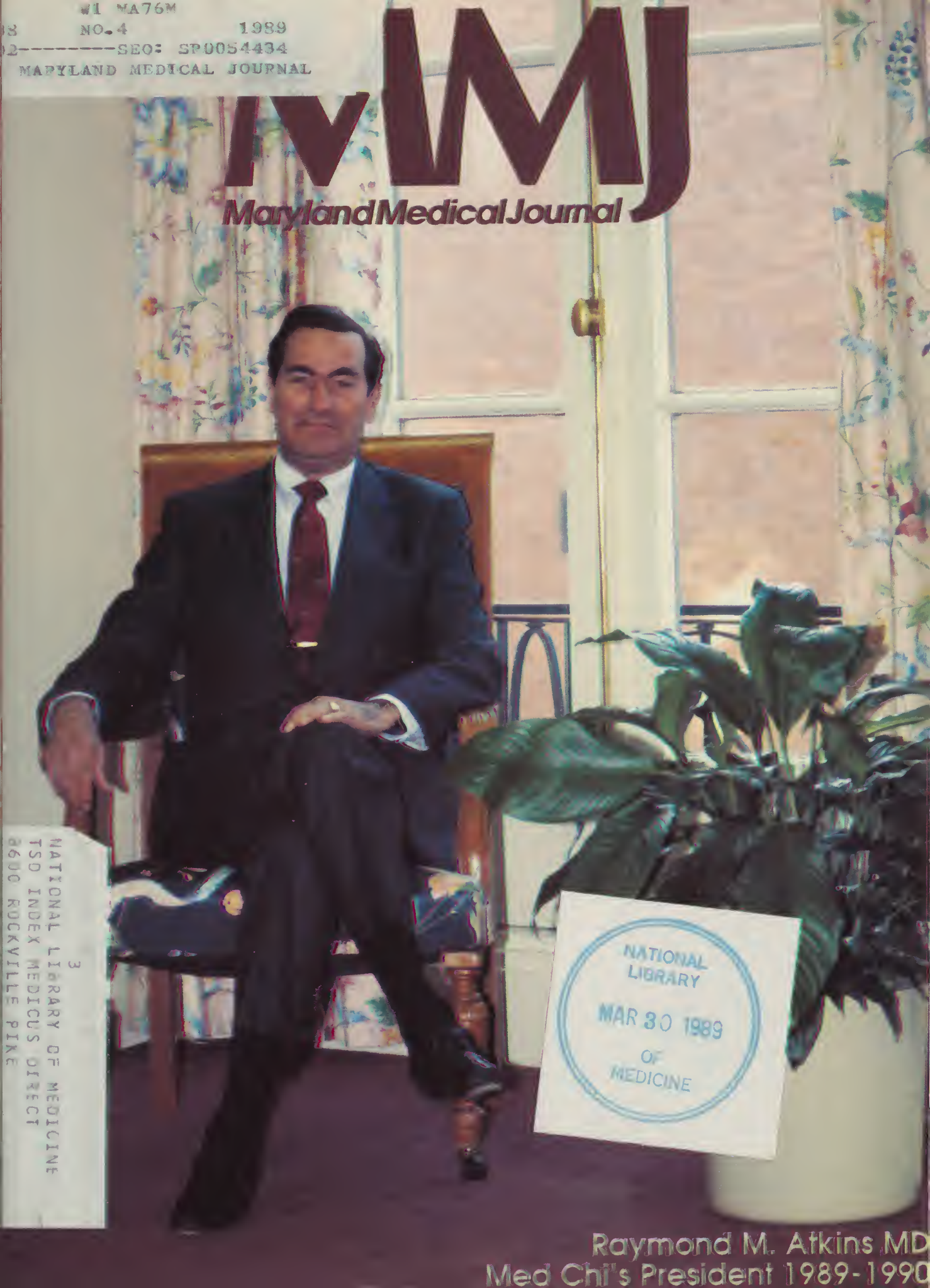
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APRIL 1989 VOL 38, NO 4

ARTICLES

Medical Exemption Provision of Maryland's Safety-Belt-Use Law 298
Med Chi's Council strongly supports the use of safety-belts, recognizing that the chances of surviving a motor-vehicle crash are greater when occupants are properly restrained.

History of Bacteriology in Maryland through 1925 303
John Collinson MD
Perhaps the person with the greatest influence on the development of bacteriology in Maryland was Dr. William H. Welch, who, with Dr. T. Mitchell Prudden, is credited with having brought the experimental science to America.

COVER ARTICLE: Raymond M. Atkins MD - Med Chi's President 1989-1990 315
Chief of Surgery at Homewood Hospital, Dr. Atkins continues in private practice and serves as Surgeon for the 97th Army Reserve Command.

The Golden Era of Microbiology: People and Events of the 1880s 323
Theodore E. Woodward MD
While it was well known that microorganisms were present in diseased tissues as well as practically everywhere else in nature, many physicians did not consider the presence of bacteria the cause but merely an accidental accompaniment of disease.

Aging and Caring 331
Paul E. Ruskin MD
We need to change our perspective. Those who are ending their lives in the helplessness of old age deserve the same care and attention as those who are beginning their lives in the helplessness of infancy.

Cover photo of Dr. Atkins as well those in article beginning on page 315 are by Michelle Dunn.

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Dear Reader:

With this issue we begin a new phase in the development of the *Maryland Medical Journal.* While retaining all the Departments that regularly appear in *MMJ*, we have reorganized their placement and updated their design for easier reader access.

We look to you for reactions to these changes as well as suggestions on what you would like to see in future issues of *MMJ.*

As always, we hope you will communicate regularly and often with the members of the Editorial Board by submitting scientific articles, Commentaries, and Letters to the Editor.

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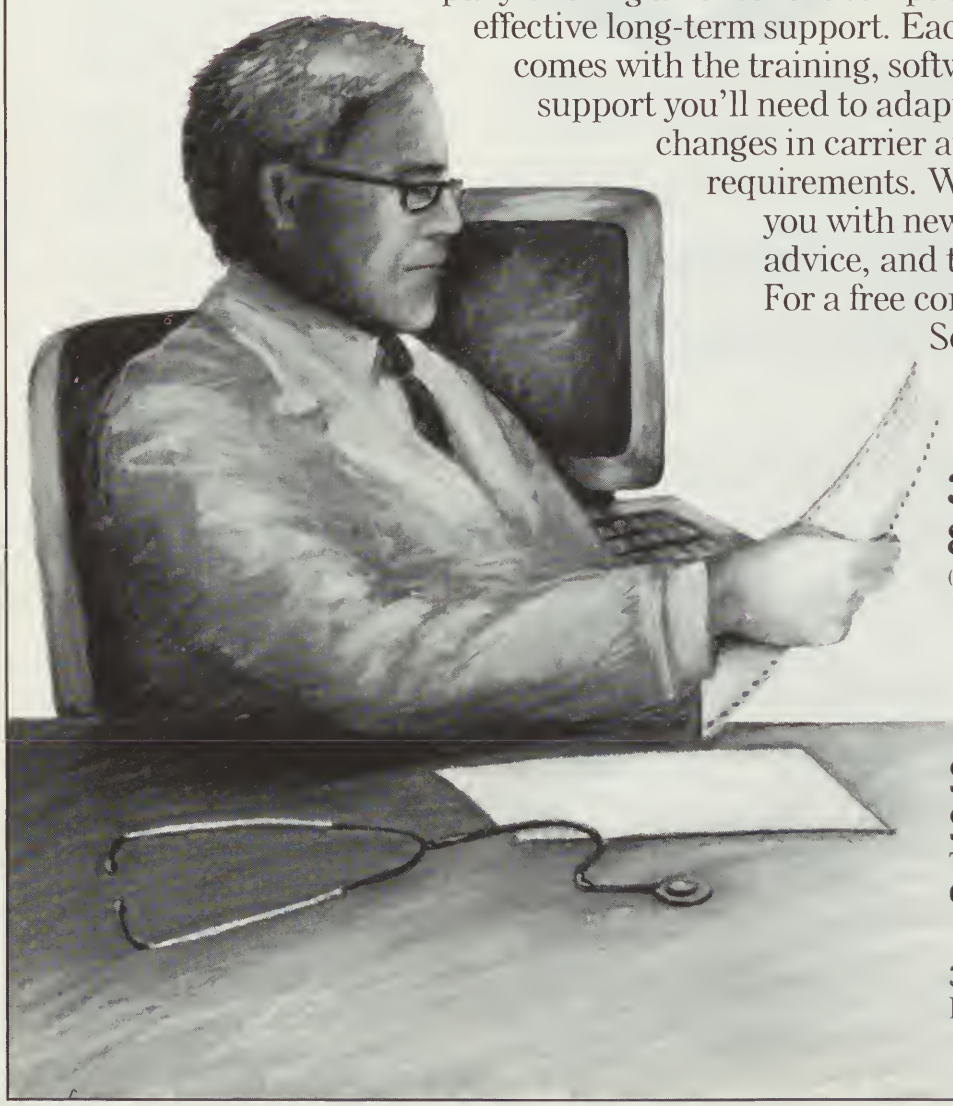
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EPIDEMIOLOGY AND DISEASE CONTROL NEWSLETTER
COMMUNITY HEALTH SURVEILLANCE ADMINISTRATION
Maryland State Department of Health and Mental Hygiene

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DRUGS FOR TREATMENT OF PARASITIC INFECTIONS
(Continued from the March 1989 Issue)

Infection	Drug	Adult Dosage*	Pediatric Dosage*
STRONGYLOIDIASIS (Strongyloides stercoralis)			
Drug of choice:[34]	Thiabendazole	25 mg/kg bid (max. 3 grams/d) x 2d[35]	25 mg/kg bid (max. 3 grams/d) x 2d[35]
TAPEWORM infection — **Adult or intestinal stage**			
Diphyllobothrium latum (fish), Taenia saginata (beef), Taenia solium (pork),[36] Dipylidium caninum (dog)			
Drug of choice:	Niclosamide	A single dose of 4 tablets (2 grams) chewed thoroughly	11-34 kg: a single dose of 2 tablets (1 gram); >34 kg: a single dose of 3 tablets (1.5 grams)
OR	Praziquantel[7]	10-20 mg/kg once	10-20 mg/kg once
Hymenolepis nana (dwarf tapeworm)			
Drug of choice:	Praziquantel[7]	25 mg/kg once	25 mg/kg once
Alternative:	Niclosamide	A single daily dose of 4 tablets (2 grams) chewed thoroughly, then 2 tablets daily x 6d	11-34 kg: a single dose of 2 tablets (1 gram) x 1d, then 1 tablet (0.5g)/d x 6d; >34 kg: a single dose of 3 tablets (1.5 grams) x 1d, then 2 tablets (1 gram)/d x 6d
— **Larval or tissue stage**			
Echinococcus granulosus (sheep, cattle, human, deer Hydatid cysts)			
Drug of choice:	See footnote 37		
Echinococcus multilocularis[38]			
Cysticercus cellulosae (cysticercosis)			
Drug of choice:[39]	Praziquantel[7]	50 mg/kg/d in 3 divided doses x 14d	50 mg/kg/d in 3 divided doses x 14d
Alternative:	Surgery		
Toxocariasis, see VISCERAL LARVA MIGRANS			
TOXOPLASMOSIS (Toxoplasma gondii)[40]			
Drugs of choice:	Pyrimethamine[41]	25 mg/d x 3-4 wks	2 mg/kg/d x 3d, then 1 mg/kg/d[42] (max. 25 mg/d) x 4 wks
	plus trisulfapyrimidines	2-6 grams/d x 3-4 wks	100-200 mg/kg/d x 3-4 wks
Alternative:	Spiramycin	2-4 grams/d x 3-4 wks	50-100 mg/kg/d x 3-4 wks
TRICHINOSIS (Trichinella spiralis)			
Drugs of choice:	Steroids for severe symptoms		
	plus thiabendazole[43]	25 mg/kg bid x 5d (max. 3 grams/d)	25 mg/kg bid x 5d
TRICHOMONIASIS (Trichomonas vaginalis)			
Drug of choice:[44]	Metronidazole[3]	2 grams once or 250 mg tid orally x 7d	15 mg/kg/d orally in 3 doses x 7d

Infection	Drug	Adult Dosage*	Pediatric Dosage*
TRICHOSTRONGYLUS infection			
Drug of choice:	Thiabendazole[7]	25 mg/kg bid x 2d (max 3 grams/d)	25 mg/kg bid x 2d
Alternative:	Pyrantel pamoate[7]	11 mg/kg once (max 1 gram)	11 mg/kg once (max. 1 gram)
TRICHURIASIS (Trichuris trichiura, whipworm)			
Drug of choice:	Mebendazole	100 mg bid x 3d	100 mg bid x 3d for children >2yrs
TRYPANOSOMIASIS			
T. cruzi (South American trypanosomiasis, Chagas' disease)			
Drug of choice:	Nifurtimox[2]	8-10 mg/kg d orally in 4 divided doses x 120d	1-10 yrs 15-20 mg/kg d in 4 divided doses x 90d, 11-16 yrs. 12.5-15 mg/kg d in 4 divided doses x 90d
Alternative:	Benznidazole[45]	5-7 mg/kg x 30-120d	
T. gambiense; T. rhodesiense (African trypanosomiasis, sleeping sickness)			
hemolymphatic stage			
Drug of choice:[46]	Suramin[2]	100-200 mg (test dose) IV, then 1 gram IV on days 1,3 7,14, and 21	20 mg/kg on days 1,3,7,14 and 21
Alternative:	Pentamidine isethionate	4 mg/kg/d IM x 10d	4 mg/kg d IM x 10d
late disease with CNS involvement			
Drug of choice:[46]	Melarsoprol[2,47]	2-3.6 mg/kg d IV x 3 doses; after 1 wk 3.6 mg kg/d IV x 3 doses, repeat again after 10-21 days	18-25 mg kg total over 1 mo. Initial dose of 0.36 mg kg IV, increasing gradually to max 3.6 mg/kg at intervals of 1-5d for total of 9-10 doses
Alternatives:	Tryparsamide	One injection of 30 mg/kg IV every 5d to total of 12 injections, may be repeated after 1 mo.	Unknown
	plus suramin[2]	One injection of 10 mg/kg IV every 5d to total of 12 injections; may be repeated after 1 mo	
VISCERAL LARVA MIGRANS[48]			
Drug of choice:[49]	Diethylcarbamazine[7]	2 mg/kg tid x 7-10d	2 mg/kg tid x 7-10d
OR	Thiabendazole	25 mg/kg bid x 5d (max. 3 grams/d)	25 mg/kg bid x 5d (max. 3 g/d)
Alternative:	Mebendazole[7]	200-400 mg/d x 5d[50]	
Whipworm, see TRICHURIASIS			
Wuchereria bancrofti, see FILARIASIS			

16. Ivermectin may also be effective.
17. Ivermectin in a dose of 200 µg/kg has been reported to be as effective as diethylcarbamazine in decreasing the number of microfilaria and causes fewer adverse ophthalmologic reactions (BM Greene et al, N Engl J Med, 313:133, 1985; AT White et al, J Infect Dis, 156:463, 1987). Semiannual to annual prophylaxis appears to be effective in keeping microfilarial counts at low levels.
18. Some Medical Letter consultants use suramin only if ocular microfilariae persist after diethylcarbamazine therapy and nodulectomy.
19. Unlike infections with other flukes, fasciola hepatica infections may not respond to praziquantel. Limited data indicate that albendazole may be effective in this condition.
20. Given on empty stomach. Although approved for human use, it is available currently only as a veterinary product. No alcoholic beverage should be consumed before or for 12 hours after therapy. Keep patient at bedrest for 4 hours after treatment.
21. In felines, ancylol (2, 6, diodo-4-nitrophenol) by subcutaneous injection has been effective against migrating larvae.
22. Albendazole is also effective (RNG Pugh, Ann Trop Med Parasitol, 80:565, 1986).
23. In sulfonamide-sensitive patients, such as some patients with AIDS, pyrimethamine 50-75 mg daily has been effective. In immunocompromised patients, it may be necessary to continue therapy indefinitely.
24. Limited data indicate that ketoconazole, 400 to 600 mg daily for 28 days, may be effective for treatment of L. panamensis and L. mexicana (cutaneous).
25. For the African form of visceral leishmaniasis, therapy may have to be extended to at least 30 days and may have to be repeated.
26. Ketoconazole, 400 mg daily for four to eight weeks, has also been reported to be effective (J Viallet et al, Am J Trop Med Hyg, 35:491, 1986).
27. Application of heat 39° to 42°C directly to the lesion for 20 to 32 hours over a period of 10 to 12 days has been reported to be effective in L. tropica minor (FA Neva et al, Am J Trop Med Hyg, 33:800, 1984).
28. For infestation of eyelashes with crab lice, use petrolatum.
29. FDA-approved for head lice only.
30. Some consultants recommend a second application one week later to kill hatching progeny.
31. AIDS patients may need longer duration of therapy. For AIDS patients who develop hypersensitivity or resistance to both TMP/SMX and pentamidine, trimetrexate with leucovorin rescue or a combination of dapsone and trimethoprim may be effective. Aerosolized pentamidine has been tried for both treatment and prophylaxis (Medical Letter, 29:103, 1987).
32. 5% permethrin, not yet marketed in the USA, could prove to be the drug of choice when it becomes available.
33. In East Africa, the dose should be increased to 30 mg/kg d, and in Egypt and South Africa, 30 mg/kg/d x 2d. Neuropsychiatric disturbances and seizures have been reported in some patients (H Stokvis et al, Am J Trop Med Hyg, 35:330, 1986).

Infection	Drug	Adult Dosage*	Pediatric Dosage*

34 Albendazole or ivermectin have also been effective

35. In disseminated strongyloidiasis, thiabendazole therapy should be continued for at least five days. In immunocompromised patients it may be necessary to continue therapy or use other agents (see footnote 34)

36 Niclosamide is effective for the treatment of T. solium but, since it causes disintegration of segments and release of viable eggs, its use creates a theoretical risk of causing cysticercosis. It should therefore be followed in three or four hours by a purge. Quinacrine is preferred by some clinicians because it expels T. solium intact.

37. Surgical resection of cysts is the treatment of choice. When surgery is contraindicated, or cysts rupture spontaneously during surgery, mebendazole (experimental for this purpose in the USA) can be tried (JF Wilson and RL Rausch, Ann Trop Med Parasitol, 76:165, 1982; ADM Bryceson et al, Trans R Soc Trop Med Hyg, 76:510, 1982). Albendazole has also been reported to be effective (DL Morris et al, JAMA, 253:2053, 1985) Flubendazole has also been used with some success (E Tellez-Giron et al, Am J Trop Med Hyg, 33:627, 1984) Praziquantel and albendazole will kill protoscolices and may be useful in case of spill during surgery

38. Surgical excision is the only reliable means of treatment although recent reports have been encouraging about use of albendazole or mebendazole (JF Wilson et al, Am J Trop Med Hyg, 37:162, 1987; A Davis et al, Bull WHO, 64:383, 1986)

39. Corticosteroids should be given for two to three days before and during praziquantel therapy Praziquantel should not be used for ocular or spinal cord cysticercosis Metrifonate 7.5 mg/kg x 5d, repeated six times at two-week intervals, has been reported to be effective for ocular as well as cerebral and subcutaneous disease. Albendazole, 15 mg/kg x 30d, which can be repeated, has been used successfully (F Escobedo et al, Arch Intern Med, 147:738, 1987).

40 In ocular toxoplasmosis, corticosteroids should also be used for anti-inflammatory effect on the eyes

41. Pyrimethamine is teratogenic in animals. To prevent hematological toxicity from pyrimethamine, it is advisable to give leucovorin (folinic acid), about 10 mg/day, either by injection or orally. Pyrimethamine alone 50-75 mg daily has been used to treat CNS toxoplasmosis after sulfonamide sensitivity develops. In AIDS patients treatment should continue indefinitely

42. Every two to three days for infants Most authorities would treat congenitally infected newborns for about one year.

43. The efficacy of thiabendazole for trichinosis is not clearly established, it appears to be effective during the intestinal phase but its effect on larvae that have migrated is questionable. In the tissue phase, mebendazole 200-400 mg tid x 3 days, then 400-500 mg tid x 10 days, may be effective. Albendazole may also be effective for this indication

44. Sexual partners should be treated simultaneously Outside the USA, ornidazole and tinidazole have been used for this condition. Metronidazole-resistant strains have been reported; higher doses of metronidazole for longer periods of time are sometimes effective against these strains.

45. Limited data

46. In drug-resistant cases of T. gambiense infections, eflornithine (difluoromethylornithine, Merrell Dow) has been used successfully; field trials are now underway (H Taelman et al, Am J Med, 82:607, 1987; F Doua et al, Am J Trop Med Hyg, 37:525, 1987; J Pepin et al, Lancet, 2:1431, 1987). It is highly effective in both CNS and non-CNS infections with T. gambiense.

47. In frail patients, begin with as little as 18 mg and increase the dose progressively. Pretreatment with suramin has been advocated for debilitated patients.

48. For severe symptoms or eye involvement, corticosteroids can be used in addition.

49. Ivermectin and albendazole have been effective in some animal studies.

50. One report of a cure using 1 gram tid for 21 days has been published (A Bekhti, Ann Intern Med, 100:463, 1984).

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Risks Associated with Human Parvovirus B19 Infection

The Centers for Disease Control (CDC) in conjunction with a large consultant group representing public health, clinicians, and researchers has recently reviewed the risks associated with human parvovirus B19, the etiologic agent of fifth disease (erythema infectiosum). The report, published in the Morbidity and Mortality Weekly Report, February 17, 1989, Volume 38, pp. 81 through 97, was "developed to assist physicians, public health officials, and other health-care professionals respond to public concerns about recently recognized serious complications of human parvovirus B19 infection, including transient aplastic crisis, chronic anemia, and fetal death."

Additional information concerning the management of school and child care facility outbreaks of fifth disease is being developed by the Maryland Department of Health and Mental Hygiene (DHMH) and the Department of Education. Information is being prepared on the procedures by which physicians can obtain serologic testing of pregnant women exposed to fifth disease. Such testing is available from the CDC through the DHMH. This information will be printed in the Maryland Communicable Disease Bulletin which is mailed directly to physicians.

We have developed a fact sheet, which is reproduced on the next page. It can be copied for your patients who desire additional information, and additional copies will soon be available through our office by calling 301-225-6677.

FIFTH DISEASE (Erythema Infectiosum) Fact Sheet

What is fifth disease?

Fifth disease (also known as "Erythema Infectiosum") is a mild rash illness that primarily affects school age children. Fifth disease is caused by a human virus called parvovirus B19.

How common is fifth disease?

Many people already have had fifth disease before they reach young adulthood. Most people get infected between 5 and 14 years of age. It is estimated that approximately half the adults in the United States have already been infected with parvovirus B19 and have lifetime immunity.

What are the symptoms of fifth disease?

Symptoms usually occur within 4 to 14 days after a person has been exposed, but may take as long as 20 days to develop. The characteristic feature of fifth disease is a red, patchy facial rash (giving a "slapped cheek" appearance) that may spread to the rest of the body in a lace-like pattern. The rash may be preceded by fever, headache, bodyache, sore throat, congestion, runny nose, cough, nausea, or diarrhea. In adult cases, joint pains or arthritis is likely to occur. Approximately 25% of cases have no symptoms. In both children and adults, the disease is usually mild and recovery occurs without problems.

How is fifth disease spread?

The virus is spread by exposure to airborne droplets from the nose and throat of infected people. The virus can also be transmitted by blood or blood products. People with fifth disease are most contagious before the onset of rash. By the time the rash or joint pains develop, spread to others is likely to have already occurred.

How is fifth disease diagnosed?

In most cases, the disease is diagnosed based on the appearance of typical symptoms. A specific blood test has been developed, but is available primarily for pregnant women exposed to fifth disease.

What problems are associated with parvovirus infection?

Miscarriages and stillbirths have been uncommonly associated with parvovirus infection, particularly when the infection occurs during the first half of pregnancy. No birth defects have been associated with parvovirus infection to date. Parvovirus infection may result in severe anemia in people with immunodeficiency or chronic red blood cell disorders, such as sickle cell anemia.

Is fifth disease treatable?

Currently, no specific treatment or vaccine is available.

What control measures should be taken?

In general, no control measures are necessary. Since the greatest risk of viral spread occurs before symptoms begin, exclusion of children with fifth disease from school or day care is not recommended. It is not known whether pregnant women or others at risk of complications who work in schools, day care, or health care settings can effectively prevent infection by staying home. Pregnant women and others at risk should consult with their physicians if they have been in contact with a case of fifth disease, however, the Maryland Department of Health and Mental Hygiene does not recommend the routine exclusion of those at risk from settings where fifth disease is occurring.

State of Maryland, Department of Health & Mental Hygiene
Epidemiology and Disease Control Program
March 1989

A Review of Available Smoking Cessation Methods, 1989

Mark T. Godenick MD, MPH

A two-part series on smoking and health highlights recent findings emphasizing the impact of smoking on society in terms of health and economic costs. While 3 percent of smokers quit spontaneously each year, smoking remains a tremendous problem.

Smoking is the number one cause of preventable morbidity and mortality in the United States today.[1] The annual death toll is in excess of 350,000 persons per year, which exceeds the total number of American soldiers killed in WWI, Korea, and Vietnam combined.[2] The Surgeon General estimates that 30 percent or 170,000 of 565,000 annual deaths from coronary heart disease (CHD) are attributable to smoking.[3] Another 30 percent or 125,000 of 412,000 annual deaths from cancer, mostly lung cancer, are attributable to smoking.[4] Chronic obstructive lung disease accounts for an additional 62,000 annual smoking-related deaths.[5] In Maryland in 1985 there were an estimated 5,266 smoking attributable deaths with 38,491 years of potential life lost before average life expectancy. This results in 121.3 lives lost due to smoking per 100,000 persons.[6]

In addition to this enormous loss of life, cigarette smoking is responsible for substantial morbidity. Diseases that have been shown to be strongly related to smoking include CHD, stroke, chronic obstructive lung disease, peripheral vascular disease, and cancers of the lung, larynx, oral cavity, esophagus, bladder, kidney, and pancreas. There were an estimated 5,000 new cancers and 7,500 new heart attacks due to smoking in Maryland in 1987.[7] Smoking also is strongly related to low birth weight and to delayed conception. Diseases adversely affected by smoking include peptic ulcer disease and periodontal disease.

Smoking Prevalence

An estimated 60 million Americans continue to smoke. Smoking prevalence rates have dropped annually from over 50 percent of men in the 1950s and nearly 35 percent of women in the mid-1960s to 33 percent of men and 28 percent of women in 1985.[8] There are 1.2 million smokers in Maryland, with an overall 34 percent of adults smoking.[9] If the current decrease in prevalence rate of smoking continues, it is estimated that by the year 2000 nearly 20 percent of men and 23 percent of women will be smoking.[10]

Economics of Smoking

The tobacco industry commissioned Chase Econometrics to estimate the economic contribution of the tobacco industry to the nation in 1983. They estimated $31.5 billion was contributed to the Gross National Product and 710,000 jobs were created by tobacco and related industries. However, the economic costs to society are greater. The Congressional Office of Technology Assessment estimated that $22 billion in health care costs and $43 billion in productivity losses would occur in 1985.[11] These amounts increase every year, and they do not account for costs to society in human terms. Improved health, not money, should motivate the drive for a smoke-free society by the year 2000.

From tobacco tax revenues and farm income to the state of Maryland in 1986 total income was $105 million; the total per pack revenue amounted to $.20. However, the direct and indirect death and illness costs of smoking in Maryland in 1986 were $993 million, accounting for 7 percent of health care costs. Calculated health care costs per pack of cigarettes smoked in Maryland for 1986 were $1.87.[7] It is apparent that it is not cost effective for our society to continue to smoke.

Smoking Cessation Makes a Difference

Is smoking cessation a worthwhile goal with respect to improved health and longevity? Examination of two smoking-related diseases that currently affect most individuals in the United States (cardiovascular disease and lung cancer) will help answer this question.

The combined death rate for all cardiovascular disease has declined over 40 percent since 1950. From 1963 to 1984 coronary heart disease mortality rates have declined by 31 percent for white males, 19 percent for black males, and 35 percent for white and black females.[12] This parallels the decreasing cigarette smoking rates. There is a variable latency period between exposure and onset of disease in all smoking-related diseases. Current trends in the incidence rates of smoking-related diseases reflect effects of past levels of cigarette consumption. The risk of CHD attributable to smoking declines over 50 percent after one year of cessation. It approaches that of a nonsmoker after a decade. The degree of risk reduction is determined by the length of time since cessation and by the cumulative "pack-years" of smoking by the individual.[3]

Lung cancer mortality rates have continued to rise. The total number of lung cancers has increased from about 18,000 in 1950 to about 130,000 in 1986.[13] However, the incidence of new cases of lung cancer recently has dropped about 4 percent in white men.[14] If the decline in new cases continues, eventually there will be a decline in mortality. This supports the long latency period between exposure and onset of lung cancer that has been suggested in the large cohort studies on this subject.

Data pertaining to women are more sobering. In 1986 lung cancer surpassed the former leading cause of cancer death, breast cancer. The death rate from breast cancer has stood unchanged since 1950 at about 23 to 24 per 100,000, whereas the lung cancer death rate has risen an average of 6 percent since the early 1960s to about 25 per 100,000 women in 1986.[15] This increase reflects the high prevalence of smoking in the cohorts of aging women.

The cost effectiveness of counseling smokers to quit was recently estimated by Cummings *et al.* The findings were based on the author's estimate of the effectiveness of physician counseling (2.7 percent) and one third the average cost of an office visit to a physician plus the cost of a smoking cessation self-help booklet ($12). The cost-effectiveness of brief advice during routine office visits ranged from $705 to $988 per year of life saved for men and from $1,204 to $2,058 for women. This compares favorably to other accepted medical preventive practices such as discussing the treatment of mild to moderate hypertension or hypercholesterolemia.[16]

Treatment Strategies

Although most smokers who quit do so without any help, a significant number of people need encouragement to quit. Cigarette smoking is a powerful habit to break, and knowledge about the health hazards of smoking may be insufficient to overcome the addiction to tobacco. The average smoker attempting to quit makes an average of three attempts before achieving success. Thus, even though a person may be unsuccessful in smoking cessation, any honest attempt at quitting is better than no attempt at all and is part of the learning process of quitting. A physician should not convey a sense of frustration, since this might lead the patient to feel guilty and to avoid attempting to quit again. It is best to recognize his or her difficulties and encourage the patient to change.

Physicians should be knowledgeable about the different methods of smoking cessation available in their practice area as well as the strengths and limitations of each method.

These methods can be categorized into four main types: (1) self-help methods, self-help aids, and mass media approaches, (2) physician or health professional directed minimal interventions such as brief office counseling, using single session acupuncture, or hypnosis, (3) comprehensive smoking cessation programs, and (4) either method 2 or 3 above combined with a pharmacologic aid such as Nicorette gum or clonidine. The Table lists these methods, which will be discussed next month.

Patient Characteristics to Consider

Abrams[17] suggests that when thinking about how best to aid a patient who is seriously considering smoking cessation it is useful to keep four patient characteristics in mind:

1. How motivated is this person to quit?
2. How biologically addicted is this person to cigarettes? A person who smokes more than 25 cigarettes per day, usually smokes within 30 minutes of waking, and smokes even when ill with a respiratory infection or a cold is considered to be biologically addicted.
3. How psychologically addicted is this person to cigarettes? An individual who smokes to handle stressful situations or social encounters, or whose moods depend on smoking is considered to be psychologically addicted.
4. Has he/she attempted to quit before? If so, what method was used and what was the outcome?

A smoker who is less biologically and psychologically addicted and who is a first-time quitter may be a candidate for self-help or minimal contact smoking cessation methods. A smoker who smokes heavily and who is more biologically and psychologically addicted may be better helped by a smoking cessation program in conjunction with a pharmacologic aid. Throughout, the physician always should be a positive force encouraging the patient and coordinating a successful smoking cessation attempt.

Promoting Smoking Cessation in the Office

The patient's health advisor can promote smoking cessation in several ways. First, provide the proper role model. The physician should not smoke and should maintain a nonsmoking environment in the office. Second, become knowledgeable about the health hazards of smoking and the benefits of quitting and take the time to convey this information in a firm, but kindly and nonthreatening manner, to each patient who smokes. Third, assess the smoker's needs and desires and identify his/her smoking characteristics. Fourth, discuss with the patient the available options and recommend the best approach. Take time to listen to the patient who will attempt to stop smoking. A patient's thoughts are important! And last, advise the

Table. Smoking Cessation Methods

1. Self-Help Methods, Aids, and Mass Media Events
   - Pamphlets and booklets
   - Commercial books
   - Stop smoking aids
   - Mass-media programs
2. Minimal Intervention by Physician or Health Profcssional
   - Physician counseling
   - Hypnosis
   - Acupuncture
3. Comprehensive Smoking Cessation Program
   - Not-for-profit groups and clinics
   - Commercial programs
4. Pharmacologic Aids to Smoking Cessation
   - Nicorette
   - Clonidine

patient to act on the selected smoking cessation strategy.

Follow-up should be conducted at the next office visit to assess progress.

Once a person has quit, physicians can employ some strategies to help prevent relapse. At each subsequent office visit, remind the patient of the health hazards of smoking and the benefits of cessation and congratulate him or her on the attempt to quit whether or not it was successful. It should be emphasized that repeated attempts often are needed to quit. Referral to maintenance programs in the community can be made.

Next month's article will focus on specific methods available for patients to successfully stop smoking. Many recent studies will be reviewed to point out the strengths and weaknesses of each smoking cessation method.

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HBP Commentary is contributed by the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors, 201 W. Preston St., Baltimore, MD 21201 (301-225-5891). Editors: R. Patterson Russell MD, Past Chairman; Donald O. Fedder PharmBS, DrPH, Chairman; and Robert S. Epstein MD, MS, Assistant Professor of Epidemiology, University of Maryland School of Medicine.

Doctor Planning to Relocate?

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Physician Placement Services

The Medical and Chirurgical Faculty of the State of Maryland maintains a Placement Service for the convenience of Maryland physicians, hospitals and communities in search of candidates for positions available in our state. A detailed description of such opportunities should be forwarded to the Physician Placement Service. 1211 Cathedral St., Baltimore, MD 21201; telephone 301-539-0872.

Physicians wishing to locate in Maryland are invited to submit a resume to be kept on file with the Physician Placement Service. Candidates are requested to inform the Faculty when they are no longer available for consideration for opportunities which might be available in Maryland.

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At its January 28th, 1989 meeting, Med Chi's Council passed the following resolution. This resolution was submitted to Council by the Committee on Alcoholism and Chemical Dependency and is in keeping with earlier resolutions passed by the Council and the House of Delegates aimed at reducing smoking and the health hazards that smoking represents. Pending during this year's session of the Maryland General Assembly is Senate Bill #65, which, if passed, would restrict the means by which tobacco products may be distributed. Sponsoring this bill is Senator Vernon F. Boozer (301-841-3706). Those interested in passage of this legislation should call Senator Boozer to voice their support.

Resolution of the Medical and Chirurgical Faculty of Maryland

Resolution on Limiting the
Sale of Tobacco Products

Whereas, Cigarette smoking is a major cause of death, disease and high medical costs in the United States;

Whereas, Nicotine is not only a drug but an addictive drug, and;

Whereas, Legal restrictions on the sale of tobacco may result in significant reduction of its use among the general population, thereby reducing the incidence of morbidity and mortality resulting from such use, therefore, be it

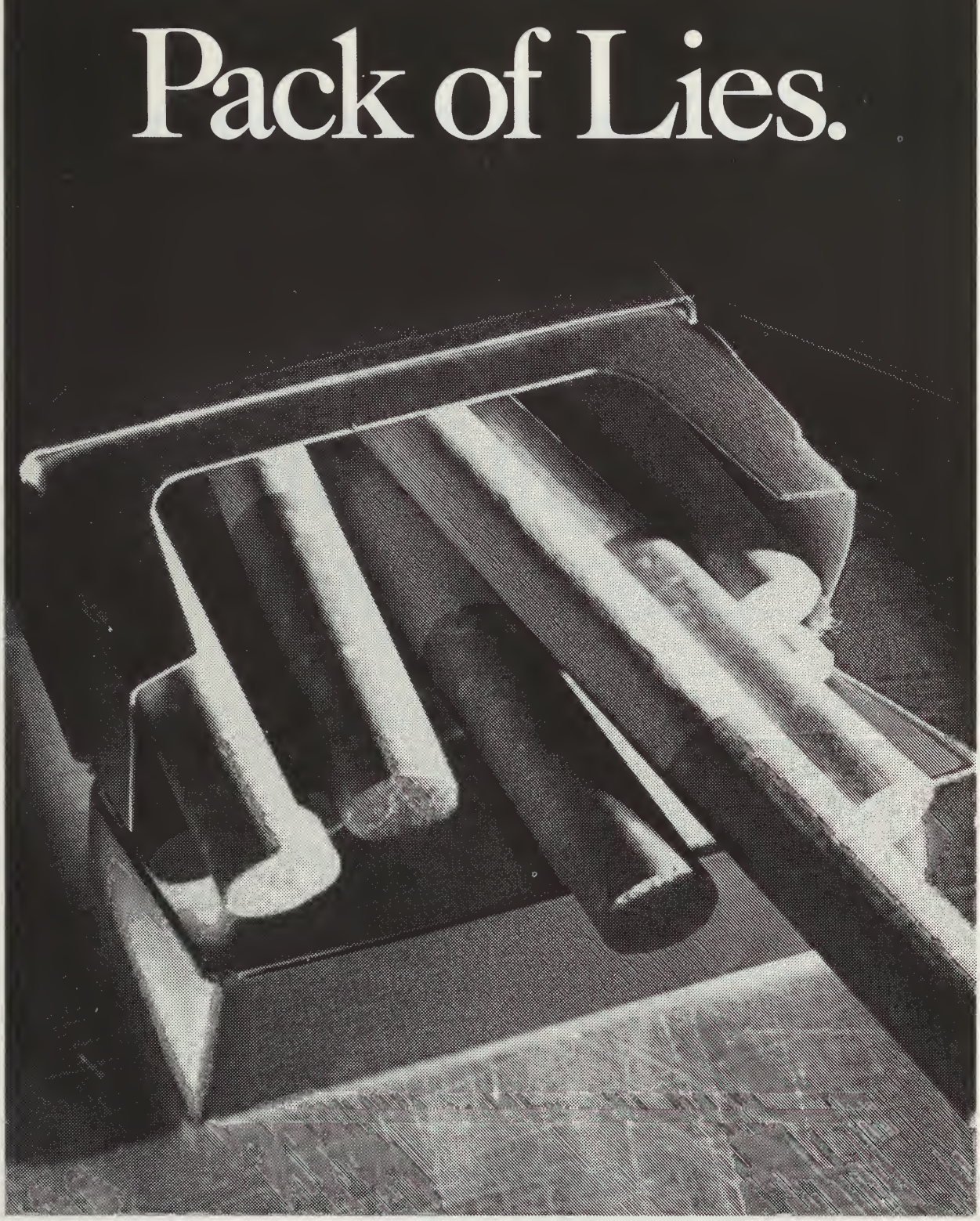
Resolved, That the Medical and Chirurgical Faculty of Maryland supports efforts towards legislation limiting the sale of tobacco products in Maryland; and be it therefore

Resolved, That support for such legislation may include action aimed at raising the minimum age required for the purchase of tobacco products and restricting the means by which tobacco products may be sold.

Approved this day

Michael K. Dohnfs. M.D.
President

Pack of Lies.



What are the three biggest lies in the world?
Smoking is relaxing. Smoking is glamorous. Lung cancer won't happen to me.
This year, 125,000 Americans learned the truth about smoking
when they were diagnosed with lung cancer.

EVERY QUITTER IS A WINNER.

AMERICAN CANCER SOCIETY

Created as a public service by McCaffrey and McCall, Inc.

PIE's quality rating insurance program isn't for everyone, but it might be the best policy for you.

When it comes to professional medical liability insurance, one size doesn't fit all. If it did it would be too expensive. PIE Mutual Insurance Company's Quality Rating Insurance Program (QRP) is designed to provide the best coverage for the best doctors at the best rate.

QRP FACTS:

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High Limits – Backed by our reinsurer, Lloyd's of London, PIE is able to offer higher coverage limits for qualifying doctors: up to $5 million for individual doctors and $7.5 million for group policies. Lloyd's of London is the largest reinsurer in the world.

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1301 East Ninth Street
Cleveland, OH 44114
(216) 781-1087

Mutual Insurance Company
PIE

Executive Director's Newsletter

April 1989

New Medicare Part B Requirement

Beginning April 1, 1989, physicians will be required to use ICD-9 codes on all Medicare Part B claims. The AMA has persuaded HCFA to delay enforcement of this provision until June 1, 1989 in order to apprise physicians of the change. Failure of physicians to comply with the requirement could result in monetary penalties of up to $2,000 per incident, or exclusion from the Medicare program.

Important! Liability Insurance Coverage

Mutal Fire Inland and Marine Malpractice Insurance Company is not approved to do business in Maryland because of its insolvency. Since Mutual Fire is a surplus line insurer, it is not covered by the Property and Casualty Insurance Guaranty Corporation which covers insurance claims arising out of insurance policy contracts of insolvent insurers. Any physician who purchased Mutual Fire should notify the Faculty in order to receive an update to Mutual Fire's reorganization plan for covering claims of its insured. Please contact Erica Parker at the Faculty for information on Mutual Fire's reorganization plan at 539-0872 or 1-800-492-1056 in Maryland.

Medical Exemptions for Safety-Belt Use

Maryland law requires automobile drivers and front seat passengers to wear safety-belts but provides for the possibility of medical exemption from the law for drivers and/or passengers with a written verification from a physician stating that he/she is unable to wear a safety-belt for medical reasons. According to the Maryland Committee on Safety-Belt Use, Inc., there are no routine medical grounds for granting medical exemption to the safety-belt law. For more information regarding proper safety-belt use and special medical conditions, see the article entitled *Medical Exemption Provision of Maryland's Safety-Belt Use Law* on page 298 of this issue.

Seminar on Permanent Impairment

Med Chi and the AMA are sponsoring, *Using Guides to the Evaluation of Permanent Impairment*, on Saturday June 10 at the Stouffer Harborplace Hotel in Baltimore. The all day seminar will instruct users of the AMA's *Guides* on how to conduct impairment evaluations and how to understand the new clinical concepts introduced in the *Guides* latest edition. The seminar will feature major contributors to the *Guides* and will fulfill 7 credit hours in Category 1 of the Physicians Recognition Award of the AMA. To register for the seminar complete the form on the following page. For more information on the seminar contact Betsy Newman at the Faculty.

Commemorative Stone

The AMA recently embarked on a campaign to restore a commemorative stone housed in the Washington Monument. Donated in 1853 by the AMA, the stone "symbolized physicians' devotion to the new republic founded on freedom." Over the years, erosion and defacement have damaged the stone. Med Chi hopes that Maryland physicians will help the AMA rededicate this historic stone by contributing to this endeavor. Contributions to the campaign should be addressed to: AMA Stone/National Park Service, P.O. Box 109016, Chicago, IL 60610-9016.

The Nurse Physician Relationship

The Maryland Hospital Education Institute (MHEI) is sponsoring a seminar on *The Nurse-Physician Relationship* on April 11, 1989 at the Hyatt Regency Inner Harbor Hotel in Baltimore. The seminar fulfills 6 hours in Category 1 of the Physician's Recognition Award of the AMA. For registration information contact Beth Morgan, Program Coordinator for MHEI at (301) 321-6200 ext.315. Med Chi has agreed to participate in a joint task force on the Nurse-Physician Relationship along with the Maryland Hospital Association, the Maryland Nursing Association and the Maryland Association for Nursing Homes. Marilyn Goldwater, from the Department of Health and Mental Hygiene is the coordinator of the task force.

Promoting Smoking Cessation

On April 28, 1989 the American Cancer Society (ACS) will present *Promoting Smoking Cessation: New Opportunities for the Health Professional* at the Sheraton Inner Harbor Hotel in Baltimore. For more information contact ACS Medical Affairs Department at (301) 529-7272.

Fax Machine

In order to facilitate communication between Med Chi, its component societies, physician membership, and the medical community a fax machine was recently installed at the Faculty. Med Chi's fax number is 301-547-0915. Med Chi staff is also studying the feasibility of an arrangement whereby fax machines may be made available within component society offices, or for those societies having no office, in the hopital medical staff offices within their county.



Angelo J. Troisi, FACHE

The Committee on Scientific Activity

of the

Medical and Chirurgical Faculty of the State of Maryland

requests the honor of your presence

with your guests

at the

Annual Presidential Reception and Banquet

Honoring Doctor Michael R. Dobridge

Turf Valley Hotel and Country Club

Ellicott City, Maryland

on Friday, the fourteenth of April

at six-thirty o'clock

nineteen hundred and eighty-nine

Reception
Open Bar
Dinner
Dancing

Tickets - $65.00 per person

Use Reservation Form on back

Program

Michael R. Dobridge, M.D.
President

Invocation

Dinner

Greetings from the President
Michael R. Dobridge, M.D.

Dancing
Al Lambert/Moneysworth
Dancing before and after dinner

REGISTRATION FORM - ANNUAL MEETING

Wednesday - Friday, April 12 - 14, 1989

Turf Valley Hotel and Country Club

Name_____Telephone_____Component Soc._____

Address_____City_____State_____Zip_____

REGISTRATION FOR MEETING *(please check appropriate line)*

_____Member of Med-Chi.....NO CHARGE (includes Wed.& Thurs. Lunch)

_____Non-Member Physician (Check Category that applies)

_____Registering for entire meeting - .....$100.00 $_____

(After April 1st) .....$110.00 $_____

_____Apply fee to first year's dues

_____Credit hours only. (Per credit hour) .....$15.00 $_____

_____No CME Credits, no lunch .....NO CHARGE

_____Residents and Students. _____Apply to first year's dues .....$5.00 $_____

_____Allied Health Personnel-Letter of accreditation .....$15.00 $_____

_____Allied Health Personnel - No Credit .....NO CHARGE

REGISTRATION FOR MEAL FUNCTIONS *(Indicate number of tickets)*

_____Ticket (s) for lunch, Wed., April 12

_____Ticket(s) for lunch, Thurs., April 13

Med Chi and Auxiliary Members\ No Charge BUT Reservations Required.

Additional tickets

_____Lunch, Wednesday, April 12 - .....$8.00 each $_____

_____Lunch, Thursday, April 13 - .....$10.00 each $_____

_____MMPAC Cabaret, Wed., Apr. 12, 5:30p.m. .....$30.00 each $_____
(Sustaining Members of MMPAC get one free ticket)

_____Prayer Breakfast, Thurs.,Apr. 13, 7:15a.m. Tickets:.....$12.00 each $_____

_____Presidential Banquet, Fri., Apr. 14, 6:30p.m. Tickets:.....$65.00 each $_____

TOTAL AMOUNT ENCLOSED $_____

Return this form and a check made payable to Med-Chi in the amount due, to:
Convention Dept., Med-Chi, 1211 Cathedral St., Baltimore, MD 21201.
Tickets will be held at Advance Registration Desk.
No refunds for cancellations within 24 hours of event.

USING GUIDES TO THE EVALUATION OF PERMANENT IMPAIRMENT

A Seminar sponsored by the Medical and Chirurigical Faculty of Maryland and the American Medical Association.

Saturday, June 10, 1989
Stouffer Harborplace Hotel, Baltimore, MD

This all day seminar will instruct users of the AMA's *Guides to the Evaluation of Permanent Impairment* -- physicians, attorneys, insurance administrators and others -- how to conduct impairment evaluations and how to understand the new clinical concepts introduced in the *Guides* latest edition. Seminar speakers are major contributors to the *Guides*.

After attending this seminar, you will have:

- An understanding of the validity of the *Guides*
- An understanding of the basic concepts and techniques described in *Guides* and of their everyday applications
- Knowledge of the concepts used in evaluating impairment of the spine
- Knowledge of the concepts used in evaluating impairment of the upper extremity, with case presentations
- Knowledge of the relationship between pain and impairment and of the impact of pain on evaluating impairment

The American Medical Association designates this continuing medical education activity for 7 credit hours in Category 1 of the Physicians Recognition Award of the AMA.

Register NOW, space is limited to 200 persons.

Registration Form: **USING GUIDES TO THE EVALUATION OF PERMANENT IMPAIRMENT**

Please check the applicable items below.

_____ Yes, I want to attend the AMA Seminar on *Using Guides to the Evaluation to Permanent Impairment.* I want to register for the Seminar at the Stouffer Harborplace Hotel in Baltimore, MD on Saturday, June 10, 1989.

Name_____

Affiliation or Organization_____

Street Address_____

Telephone (include area code) _____

_____Registration Fee _____$300 AMA Member_____$350 Non-member

_____Enclosed is my check payable to the American Medical Association for _____

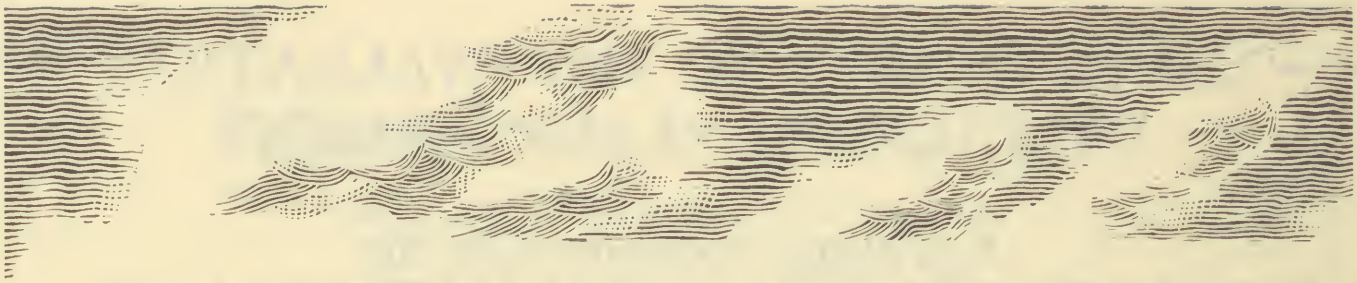
_____Mastercard _____Visa _____ Expiration Date

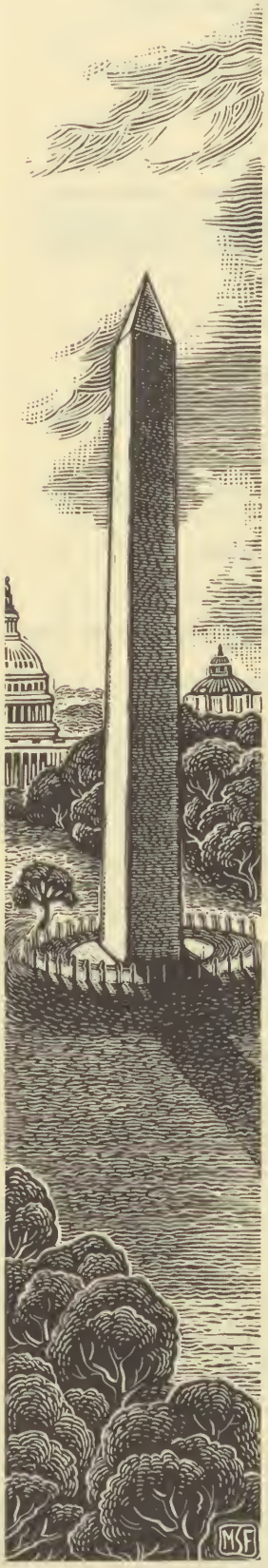
_____Account Number_____

Signature_____

Please return this form to:
Department of Registration Services, American Medical Association
535 North Dearborn Street, Chicago, Illinois 60610

For phone registration call the AMA's TOLL-FREE reservation hotline, 1-800-621-0835.





OVER A CENTURY AGO,

a thousand visionary physicians across the nation bestowed a commemorative stone carving to the Washington Monument. This patriotic display symbolized their unrelenting devotion to a new republic founded on freedoms—including the freedom to practice medicine for the best possible health of all its people. *Today your help is needed to restore this symbol of our profession.*



Because the commemorative stone has suffered from severe erosion and defacement, the American Medical Association is launching a campaign to raise money from physicians to restore this symbol of medicine for the National Park Service. Every contribution made to this effort will serve as a statement of each physician's personal affirmation and commitment to health and medicine in America.

Please take part in rededicating the commemorative stone as a shining example of the strength of medicine in a free and strong society. Contributors who donate $100 or more will receive a memorial replica of the carving as a token of appreciation. Send your tax deductible contribution for this timeless symbol today. Thank you.

AMA AMERICAN MEDICAL ASSOCIATION

NATIONAL PARK SERVICE Department of the Interior

Yes, I want to affirm my commitment to health and medicine in America. Please accept my contribution for:

_____ Other
_____ $100
_____ $50
_____ $25

Please make checks payable to: AMA Stone/National Park Service. Mail your payment with this form to:

AMA Stone/National Park Service
P.O. Box 109016
Chicago, Illinois 60610-9016

Name _____

Address _____

City/State/Zip _____

All donations are tax deductible. All contributions will be publicly recognized in an unveiling ceremony for the new stone when it is fully restored.

Thank you for your contribution.



Where do you draw the line?

As a mental health professional, you know that every patient represents a unique challenge. In most cases, you are able to meet each person's individual needs with effective treatment and positive results.

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We're here to use all our experienced staff and facilities to assist you in working with your patients. For further information or to arrange admission, contact our Admissions Office at **(301) 465-3322 or (202) 621-4965**.

Taylor Manor Hospital

ELLICOTT CITY, MD 21043

(301)465-3322 / (202) 621-4965

Fortieth Anniversary
1949 - 1989

The Woman's Auxiliary to the American Medical Association was organized in 1922 as the logical outgrowth of state and county auxiliaries already in existence in Texas, South Dakota, Oklahoma, Maine, Minnesota, and Montana.

In 1949 the American Medical Association was anxious to have auxiliaries in all the states to help oppose the legislative tendencies toward the socialization of medicine. The Auxiliary was to function as a liaison between the medical profession and the general public. Its members were to be ready to explain the position of medicine when requested or when the opportunity presented itself.

The Medical and Chirurgical Faculty of the State of Maryland adopted a resolution to form a state women's auxiliary at its Semiannual Meeting held in Chestertown, in September 1949.

The organizational meeting of the Women's Auxiliary to the Medical and Chirurgical Faculty of the State of Maryland was held November 15, 1949 at the Faculty building. Mrs. Thomas A. Christensen was Acting Chairman, and Mrs. George H. Yeager was Acting Secretary for this meeting. Mrs. Frank J. Otenasek, Chairman of the Constitution and Bylaws Committee, read the proposed constitution, which was adopted. The meeting then proceeded with the reading and adoption of the Bylaws.

The following officers were nominated and elected:

President	Mrs. Thomas A. Christensen
President-elect	Mrs. J. M. T. Finney, Jr.
1st Vice-President	Mrs. Eldridge H. Wolff
2nd Vice-President	Mrs. John G. Ball
3rd Vice-President	Mrs. Charles A. Reifschneider
4th Vice-President	Mrs. A. A. Pearre
Recording Secretary	Mrs. Henry N. Briele
Corresponding Secretary	Mrs. W. K. Waller
Treasurer	Mrs. Page C. Jett
Parliamentarian	Mrs. R. C. Dodson

Counties represented at this meeting were Baltimore, Caroline, Carroll, Cecil, Dorchester, Frederick, Harford, Howard, Kent, Montgomery, Prince George's, Talbot, Washington, Wicomico, Worcester, and Baltimore City.

Past Presidents

+	Mrs. Thomas A. Christensen	1950-51
	Mrs. George H. Yeager	1951-52
	Mrs. Charles H. Williams	1952-53
	Mrs. John G. Ball	1953-54
+	Mrs. Albert E. Goldstein	1954-55
+	Mrs. Gerald W. LeVan	1955-56
	Mrs. Homer U. Todd	1956-57
	Mrs. David S. Clayman	1957-58
	Mrs. E. Roderick Shipley	1958-59
	Mrs. D. Delmas Caples	1959-60
*	Mrs. William S. Stone	1960-61
	Mrs. Norman Oliver	1961-62
	Mrs. Robert P. Conrad	1962-63
	Mrs. Walter M. Hammett	1963-64
	Mrs. John E. Baybutt	1964-65
	Mrs. Martin E. Strobel	1965-66
+	Mrs. Archie R. Cohen	1966-67
*	Mrs. William S. Stone	1967-68
	Mrs. H. Leonard Warres	1968-69
	Mrs. Wallace H. Sadowsky	1969-70
	Mrs. Raymond M. Yow	1970-71
	Mrs. Robert E. Reiter	1971-72
	Mrs. Marvin L. Kolkin	1972-73
	Mrs. Leslie R. Miles, Jr.	1973-74
	Mrs. John N. Robinson	1974-75
	Mrs. Francis C. Mayle	1975-76
	Mrs. M. McKendree Boyer	1976-77
+	Mrs. Robert E. Broaddus	1977-78
	Mrs. Thomas F. Herbert	1978-79
‡	Mrs. Albert J. Strauss, Jr.	1979-80
	Mrs. R. Kennedy Skipton	1980-81
	Mrs. Paul J. Chang	1981-82
	Mrs. Herbert Levickas	1982-83
	Mrs. Edmund Niklewski	1983-84
	Mrs. Charles E. Taylor	1984-85
	Mrs. Bernard S. Karpers, Jr.	1985-86
	Mrs. Daniel Howell	1986-87
	Mrs. Alberto Barretto	1987-88
	Mrs. Craig Edmonds	1988-89

*Honorary Members
+Deceased Members
‡AMA Auxiliary, National President 1988-89

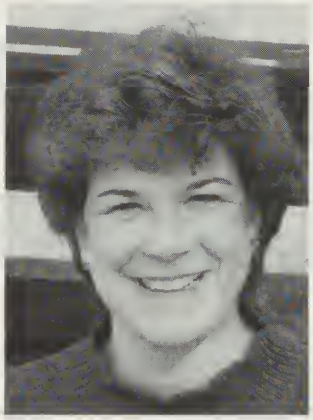
Not Shown: **Howard County**
Jackie Launder (Mrs. William)



Maryland State President
Eva Edmonds (Mrs. Craig)



Allegany County
Adela Reyes (Mrs. Francisco)



Anne Arundel County
Jean Burgess (Mrs. Scott)



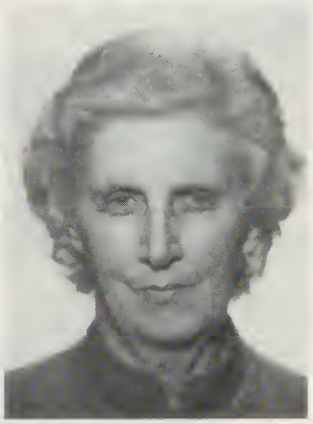
Baltimore City
Claire Jensen (Mrs. Allan)



Baltimore County
Barbara Harvey (Mrs. Christopher)



Charles County
Jasbir Sethi (Mrs.Baljeet)



Frederick County
Sue Roberts (Mrs.Robert)



Harford County
Pamela Mones (Mrs. Richard)



Montgomery County
Carol Mufarrij (Mrs. Walid)



Prince George's County
Vivian Lynn (Mrs. John)

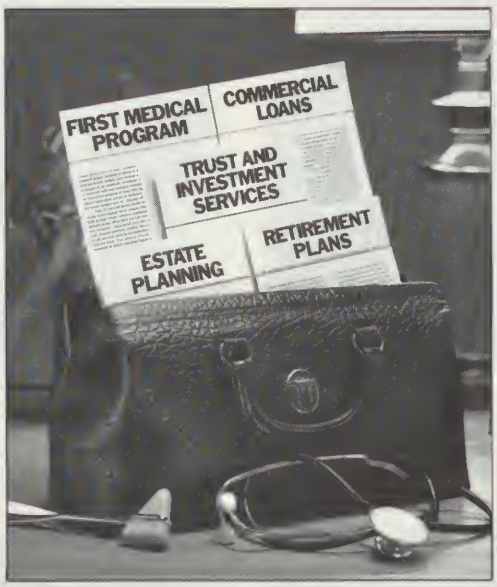


Washington County
Marty Talton (Mrs. Hugh)



Wicomico County
Margaret Shenasky (Mrs. John)

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Lower Eastern Shore: 548-7200 / **Upper Eastern Shore:** 479-3130 / **Frederick:** 698-7850
Harford: 836-5700 / **Howard/Carroll:** 964-6810 / **Montgomery:** 840-6300
Prince George's: 952-5600 / **Washington:** 790-6800

Frank J. Ayd, Jr., MD, Emeritus Director of Professional Education and Research at Taylor Manor Hospital, was designated the 1988 recipient of the Paul Hoch Distinguished Service Award of the American College of Neuropsychopharmacology at its recent annual meeting. Established in 1964, the Hoch Award is given periodically to a member of the College who has made unusually significant contributions to the College. One of the founders of the American College of Neuropsychopharmacology, Dr. Ayd has been a Fellow for 27 years.

• • •

Benjamin V. Del Carmen MD, a general surgeon in private practice in Towson, was elected President of the Baltimore County Medical Association at its recent Annual Meeting. A graduate of the University of the Philippines, Dr. Del Carmen is certified by the American Board of Surgery and is a Fellow of the American College of Surgeons. Other officers elected were President-Elect *Esther Edery MD*, Vice-3President *Harold B. Bob MD*, Secretary *Louis C. Breschi MD*, and Treasurer *Marianne Benkert MD*.

• • •

Karl F. Mech, Jr., MD assumed the post of president of the St. Agnes Hospital Medical Staff recently, after serving a one-year term as president-elect. Dr. Mech received his medical degree from the University of Maryland School of Medicine. He served a surgical internship at the University of Pittsburgh and a surgical residency as well as a residency in thoracic and cardiovascular surgery at the University of Maryland Hospital.

• • •

The Wicomico County Medical Society's leadership changed hands recently with the installation of officers for 1989. *Hilda I. Houlihan MD*, the first female preseident in the history of the Society, presided at the annual meeting at which *James A. Cockey MD* was installed. Serving with Dr. Cockey will be *Floyd E. Gray MD* as Vice-President and *Richard H. Meeks MD* as Secretary-Treasurer.

Dr. Cockey, an internist in Salisbury, received his medical degree from the University of Maryland School of Medicine and served both his internship and residency at Maryland General Hospital. He has been practicing in Salisbury since 1983.

Dr. Gray also has been in practice since 1983, in the specialty of obstetrics and gynecology. Following medical school at the University of Virginia, he served his internship and residency at the University of Tennessee.

An ophthalmologist who has practiced in Salisbury since 1982, *Dr. Meeks* graduated from The Ohio State University School of Medicine and went on to an internship at Riverside Methodist Hospital in Columbus and residency at The Ohio State University. ■

Area meetings and course announcements are listed each month under *Doctors Take Note*

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LINTHICUM, MARYLAND 21090

Executive Committee - November 17, 1988

Minutes The Executive Committee Minutes of October 20, 1988 with the exception of the "Executive Session" portion were approved with the following addendum:

Resolution 1S/88 - Gun Control Legislation

A telephone conference call was held on October 4, 1988 with these members of the Executive Committee participating: Reynaldo Lee-Llacer MD, Council Chairman; Raymond Atkins MD; Harold Bob MD; Jose Yosuico MD. The Executive Committee discussed the support of Resolution 1S/88 on Gun Control Legislation that was approved by the House of Delegates on September 24, 1988. It was the consensus that because of the immense funding being provided for both sides, no Med-Chi funds would be expended on this issue.

The House of Delegates Minutes of September 24, 1988 were approved as distributed.

Agenda Items for Council Meeting - November 19, 1988 - A motion was adopted to defer the following agenda items for discussion at the Council meeting on Saturday, November 19, 1988: Update on HB-1285-Veto Override, Peer Review, Real-Time Monitoring Update, Prescribing of Psychotropic Medications by Psychologists, Resolution on Medicare Secondary Payer Program, Medicaid - Diversion of Services, and Medicaid Survey Status/House of Delegates Meeting.

Council - November 19, 1988

RBRVS Members of the Ad Hoc Interspecialty Committee (who were invited to hear the briefing by Dorothy Moss of the AMA Department of Federal Affairs) were introduced and welcomed by the Council.

Dorothy Moss, AMA Department of Federal Affairs, presented information on the RBRVS and its implications on the practice of medicine. In closing, Ms. Moss informed Council that Reference Committee A of the AMA House of Delegates would convene a special meeting in Dallas on December 4, 1988 at 2 p.m. regarding RBRVS. Following her presentation, time was allotted for a question-and-answer period from the membership. Ms. Moss was thanked by Council for her informative presentation.

Drs. Raymond Atkins and Leon Kassel reported briefly on their perspective of the AMA/RBRVS meeting held in Chicago on November 13, 1988, which they attended.

Council Meetings Dr. Joseph Snyder introduced a motion to change the Council meetings from 10 a.m. on Saturday back to 4 p.m. on Thursday (with the exception of the annual and semiannual meetings). Background information on this issue revealed that the day of the meeting was initially changed to accommodate physicians from outlying areas of the state. Following discussion, a motion was adopted to defer the matter until sufficient data could be provided to Council for review.

Resolution on Medicare Secondary Payer Program Council approved a resolution submitted by the Montgomery County Medical Society, "Medicare Secondary Payer program," to be introduced at the AMA for introduction into the AMA House of Delegates Interim meeting, December 4-7. The resolution is as follows:

Whereas, It is the policy of the Health Care Financing Administration to provide incentives for physicians to become participating physicians;

Whereas, The burdens of the Secondary Payer Program fall disproportionately on participating physicians;

Whereas, Physicians are encouraged to accept assignment for all patients needing to be treated on such a basis;

Whereas, Beneficiaries are already confused by the rules, regulations and paperwork required by HCFA;

Whereas, Medicare's Secondary Payer Program has had the effect of leaving many appropriately provided services unreimbursed; and

Whereas, The program's effect has become a disincentive to treatment of Medicare patients; therefore, be it

RESOLVED, that the American Medical Association urge the Health Care Financing Administration to revise the Medicare Secondary Payer Program so that the determination of other insurance is made at the time of initial application, or in the case of established beneficiaries, in a manner separate from the claims processing mechanism.

Emeritus Membership Council approved the following members for Emeritus Membership, at the request of the component society indicated:

Baltimore City
John M. Gerwig MD, Baltimore
Pearl T. Scholz MD, Baltimore

Baltimore County
Clarence McWilliams MD, Reisterstown

Calvert County
George Weems MD, Huntingtown

Frederick County
Henry P. Laughlin MD, Union Bridge

Harford County
William K. Brendle MD, Havre de Grace

Montgomery County
Jonas C. Kolker MD, Chevy Chase
Louis H. Shuman MD, Silver Spring
Thomas M. Wilson MD, Bethesda

Wicomico County
Earl M. Beardsley MD, Salisbury

These names will be forwarded to the House of Delegates with a recommendation for approval.

Ad Hoc Building Committee Report On behalf of the Building Committee, Dr. George Malouf, Chairman, recommended that Council approve the acquisition of a building in Annapolis, pending independent building and land appraisal and management analysis of its commercial rental potential. The two-story building, consisting of first floor commercial rental space and a second floor of five individual partitioned offices, is located directly across from the Maryland Inn and one block from the Governor's Mansion and the State House. The building will be used as a Med-Chi office for Faculty members during the legislative session and also has the potential for subleasing. The financial implications of purchasing this building (at an estimated price of not more than $500,000) have been studied by the Finance Committee. Dr. Lawrence Fink, Montgomery County, asked if it would be necessary to place an assessment on Med-Chi members to support the acquisition. Mr. Harrison, Med-Chi Controller, indicated that an assessment would not be necessary. A motion to approve the purchase of the building in Annapolis was adopted by Council.

Professional Ethics Committee The following ethical and policy statements were presented by Dr. Louis C. Breschi, Chairman of the Professional Ethics Committee. After discussion, the Council acted on each policy as follows:

Second Surgical Opinion - APPROVED

New Statement

A physician who renders a second opinion may be asked to assist in the surgery. While not in and of itself unethical, the situation presents great opportunity for abuse. Accordingly, a physician rendering a second surgical opinion should only assist in that surgery if no other qualified physician is available.

Physicians Services Rendered to Dependents - APPROVED

Revised Statement

(a) It is (not good judgment) GENERALLY INADVISABLE for a physician to render services to his own family members.

Delete

(b) The Medicare laws prohibit payments to physicians for rendering medical services to members of their own families.

Industrial Medical Referrals - APPROVED

Delete original statement

(a) It is the opinion of the Faculty legal counsel (and it has been confirmed by the Workmen's Compensation Commission) that an individual has the right to choose his own physician for care:

"It is my opinion that the company cannot make an employee go to a company-selected doctor. The employee may select his own doctor; and secondly, if an employee received an injury growing out of the course and scope of his employment, the company must pay the doctor's bill, whether or not authorized. The supervisor of a company cannot determine what claims are compensable and what claims are not. This rests within the power and jurisdiction of the Workmen's Compensation Commission. If a claim is a compensable one and the supervisor should refuse to authorize it, the company is responsible irrespective of the supervisor's action."

(b) In addition, the Workmen's Compensation Commission, in a communication dated 3/6/62, states:

"It has always been the position of this Commission that the claimant has freedom of choice to select a qualified physician or surgeon to treat him."

Miscellaneous Statement on Compulsory Hospital Assessment of Hospital Staff - APPROVED

No change to original statement.

6.MISCELLANEOUS

The Faculty is opposed to compulsory assessment of hospital staff members for construction and equipment. These are the capital expenditures of the hospital and should not be the responsibility of its medical staff.

Percentage Fee Charges - APPROVED

Delete original statement.

The Faculty is opposed to the charging of a percentage fee by a hospital for clerical services in collection of physicians' fees or completion of insurance claim forms.

Professional Courtesy - APPROVED

Revise original statement. Delete word "solely."

8.PROFESSIONAL COURTESY

(a)It is the recommendation of the Faculty that patient physicians who offer to pay for their treatment should be freely allowed to do so, in the interest of providing medical care to members of the medical profession and their families. The following guidelines are offered as suggestions to aid physicians in resolving questions related to professional courtesy.

(b)Where professional courtesy is offered by a physician but the recipient of services insists upon payment, the physician need not be embarrassed to accept a fee for his services.

(c)Professional courtesy is a tradition that applies [solely] to the relationship that exists among physicians. If a physician or his dependents have insurance providing benefits for medical or surgical care, a physician who renders such service may accept the insurance benefits without violating the traditional ethical practice of physicians caring for the medical needs of colleagues and their dependents without charge.

(d)In the situation where a physician is called

upon to render services to other physicians or their immediate families with such frequency as to involve a significant proportion of his professional time, or in cases of long-term extended treatment, fees may be charged on an adjusted basis so as not to impose an unreasonable burden upon the physician rendering services.

(c)Professional courtesy should always be extended without qualification to the physician in financial hardship, and members of his immediate family who are dependent upon him.

Insurance Committee Report On recommendation of the Executive Committee, Council approved a motion that Med-Chi act as the vehicle by which Faculty members may participate in the Prime Financial Benefit Trust, pending review by legal counsel. The Prime Financial Benefit Trust is a tax planning and cash value program geared solely for physician employers to enable them to receive certain tax advantages.

Committee on Hospital Medical Staffs Dr. Victor Hrehorovich, Chairman of the Committee on Hospital Medical Staffs, presented the following recommendations, which were approved by the Executive Committee for adoption by Council. After discussion, the Council acted on each recommendation as follows:

1. (a) Authorized the Committee on Hospital Medical Staffs to act in a consultative capacity with the Division of Licensing and Certification, DHMH, and (b) the Committee be designated as the medical review committee liaison with the Division of Licensing and Certification, DHMH, on issues of quality assurance in the hospital setting.

2. Approved the development of a centralized consultation service available to subscribing medical staffs to provide assistance in the development, improvement, and problem resolution involving quality assurance activities. Such services are to be provided on a contractual basis and through the Med Chi service corporation.

3. Approved the Committee's recommendation that Med Chi obtain from all professional liability insurers doing business in Maryland the criteria for approved risk-management programs that may qualify participating physicians for reduction in annual malpractice premiums.

4. Approved expenditure not to exceed $15,000 to be used for the development of model hospital medical staff bylaws, specific under Maryland law.

Executive Committee - December 15, 1988

Medicaid Diversion Project Dr. Karl M. Green, Chairman, Liaison Committee with the Department of Health and Mental Hygiene, presented recommendations for review by the Executive Committee. Prepared by the Committee in conjunction with the Maryland Chapter of the American College of Emergency Physicians, American Academy of Pediatrics, American Academy of Family Practice, and the Maryland Society for Internal Medicine the recommendations are:

1. That fees for Medicaid visits be standard for the private physician, emergency department, outpatient clinic, and hospital clinic, and that they be competitive with office visit rates in the State of Maryland.

2. That as part of this plan, the claim processing procedure be streamlined and expedited to permit payment within 30 days of claim submission, and that the Project no longer require a physician's signature on each claim form.

3. That diagnostic testing in emergency departments and hospital clinics be reviewed for appropriateness of the presenting complaint to reduce unnecessary Medicaid expenditures.

4. That if any "gatekeeper" arrangement is deemed necessary, it be established on a contractual voluntary basis and not compulsory. This includes emergency departments.

5. That special consideration be given to a capitation method for the treatment and care of Medicaid patients to include case management, capitation fee plus fee for service, and referral fee.

6. That the individual function of the Department of Human Resources and Medical Assistance Program be combined so that one entity will be involved in determination of eligibility, issuance of cards, reimbursement, etc.

The Committee also reviewed a Report of the Special Joint Legislative Committee on the Medical Assistance Program and concurred with the recommendations set forth in the final report.

Upon recommendation of the Liaison Committee, the Executive Committee approved a motion to accept the report for referral to the Legislative Committee for appropriate action. The Liaison Committee will continue to monitor the Medicaid Diversion proposal.

Peer Review Manual On behalf of the Physician Quality Assurance Board, the Physician Peer Review Manual draft was presented for review and discussion. After discussion, the following motion was adopted by the Executive Committee:

That the Faculty's Peer Review Committee:

1. Distribute the draft Peer Review Manual to those component societies involved in the peer review function for review and comment;

2. Hold a meeting with the component societies' Peer Review Committee to discuss their input; and

3. Forward a copy of the final draft of the Peer Review Manual to the Council members in sufficient time for their review prior to the January 28, 1989 Council meeting.

Public Health Committee Structure Dr. Hilary T. O'Herlihy, Co-Chairman of the Committee on Public Health, presented a proposal for consolidation of the method by which the Faculty identifies and acts on issues dealing with public health.

After discussion, the Executive Committee approved

a motion to forward these recommendations to the Bylaws Committee for consideration, and also to obtain input from the various committees that would be affected by the proposal.

Council Attendance The Council meeting attendance statistics were compiled and analyzed as requested by the Council at its meeting on November 19, 1988. Changing the Council meetings from Thursday to Saturday resulted in a 3 percent decrease in attendance. The Executive Committee accepted this information for further discussion at the Council meeting in January.

Legislation on Personal Injury Protection (PIP) It was reported that Med-Chi had been requested to take a neutral stand on upcoming legislation regarding PIP. Following a lengthy discussion, the Executive Committee voted to take no position on the issue.

Liaison Committee with Third Party Carriers Dr. Aristides C. Alevizatos, Chairman of the Liaison Committee with Third-Party Carriers, submitted a proposed Bylaw change for consideration by the Executive Committee. These recommendations will broaden the Committee's involvement to include health maintenance organizations and other managed systems of health care delivery. After discussion, the Executive Committee adopted a motion to refer the proposal to the Bylaws Committee.

Committee on Mental Health The Committee on Mental Health requested approval to develop guidelines for physician referrals to social workers to address concerns raised by the following Opinion of the Attorney General (Opinion No. 88-049 [November 9, 1988]):

1. A clinical social worker may not render a diagnosis unless the patient has first been seen by a physician and referred to the social worker.
2. However, once a physician has seen the patient and referred the patient to a clinical social worker, the social worker may make a diagnosis of the person's social, mental, or emotional disorder and may use whatever diagnostic coding is appropriate for the patient's medical records and for insurance reimbursement purposes.

The Executive Committee approved the committee's request to proceed with the development of the guidelines. The final guidelines will be submitted for the approval of the Executive Committee and the Council.

Committee on Hospital Medical Staffs An update on the working plan established by the Committee on Hospital Medical Staffs to develop model hospital medical staff bylaws specific to Maryland law was provided.

Psychiatric Physician Issues The Executive Committee accepted as information correspondence forwarded to Adele Wilzack RN, MS, Secretary, Department of Health and Mental Hygiene, from the Maryland Psychiatric Society and the Alliance for the Mentally Ill, addressing issues regarding physician leadership within the Department of Health and Mental Hygiene.

LifeCard A draft letter to Thomas J. Durel, President, LifeCard International, was presented for discussion. This letter addresses the implementation of a monthly charge being assessed to physicians who transmit insurance claims electronically and requests clarification on the behalf of subscribing physicians. The Executive Committee approved the draft letter, which will be completed for mailing.

Pennsylvania Medical Society Donald G. Ferguson MD, President of the Pennsylvania Medical Society, forwarded a complimentary letter to Med Chi expressing appreciation for their recent visit and sharing of information and innovative ideas.

Attention: Member Photographers

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Continent Urinary Diversion for Improved Quality of Life

Currently, the therapy of invasive bladder cancer is cystectomy and urinary diversion. The conventional urinary diversions (including ileal and sigmoid loops) require stomas and serve as conduits rather than reservoirs. The ideal urinary diversion should preserve the urinary and sexual functions. It also should function as a reservoir, protecting the kidneys from reflux and urinary tract infection. Furthermore, the ideal urinary diversion should eradicate the cancer and leave the patient with no external appliance. In 1983 in search of an ideal urinary diversion, we began a pilot study at the University of Maryland, School of Medicine to test the feasibility of creating such a procedure for patients with invasive bladder cancer who required radical cystoprostatectomy. We modified the Kock Pouch and anastomosed it directly to the urethra with an intact sphincter after a radical nerve-sparing cystoprostatectomy; it was designated as Maryland Pouch (Figure). Initially, we reported four cases with long-term follow-ups and concluded that "this procedure provides a low-pressure, high-volume reservoir without reflux that is handled easily by patients after cystoprostatectomy."[1]

Reviewing our current experience and practice of urinary diversion with the patients requiring cystectomy for invasive bladder cancer, we find there has been no local recurrence. Our series encompasses 16 patients, who now have been followed from 6 to 58 (mean 25) months.

The capacity of the reservoirs has been 340 to 500 ml with low pressure. Radiological studies, including pelvic computerized tomography and pouchogram have demonstrated a satisfactory upper collecting system with no reflux to the kidneys.[2]

Since 1983, when we began this continent urinary diversion procedure, we have been cautious in selecting only patients at low risk for local pelvic recurrence. All our patients had a negative prostatic urethral biopsy and showed no cancer at the bladder neck, representing a low-risk group for any local recurrence. Although 5 to 8 percent of such patients may still be a risk for urethral recurrence, this can be detected easily with follow-up cytology and with radiological and endoscopic procedures. We believe such a minimal risk is justified to improve the quality of life of these patients by eliminating the stoma and by preserving potency. We recommend this operation for patients who are motivated, compliant, and have an intense desire to improve the quality of their life.

Patients' initial enthusiasm and later disenchantment with a number of urinary diversion procedures during past decades have taught us to place the final value of a procedure after the test of time. Therefore, although it appears this procedure is ideal, follow-ups are desirable to assess its true value.

A number of investigators have tested the Maryland Pouch with satisfactory results.[3] We believe that elimination of the stoma, urinary tract infection, and preservation of potency as well as urinary continence and renal function will improve the quality of life of patients requiring cystectomy for bladder cancer.

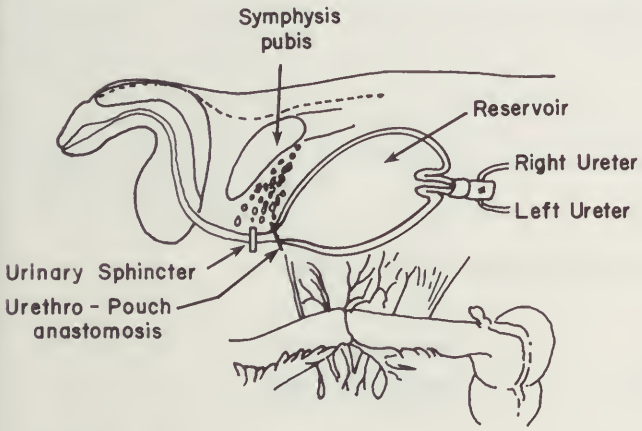


Figure: The Maryland Pouch: direct anastomosis of the ileal pouch to the urethra after nerve-sparing cystectomy for invasive bladder cancer.

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1. Javadpour N. Cystoprostatectomy for bladder cancer with preservation of potency and no stoma. J Urol 1986; 136:1377.

2. Mirvis SE, Whitley N, Javadpour N, Young JD. Computed tomography of the Kock and modified Kock continent ileal reservoir. Urol 1987;29:361.

3. Ghoneim MA, Kock NG, Lycke G, El-Din ABS. An appliance free sphincter controlled bladder substitute: The urethral Kock pouch. J Urol 1987;138:1150.

NASSER JAVADPOUR MD
Professor of Urology
Director, Urologic Oncology
Department of Surgery
University of Maryland

Tumor conferences are held weekly on Tuesday between 8-9 am in Room N13E28 at the University of Maryland Medical System. This is an open meeting and physicians are welcome to attend. Physicians can present cases, but please call 328-5224 by noon Monday to obtain time on the schedule for your case(s) and bring the pathological slides with you.

If you have any questions, call or write the Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, Maryland 21202 (301-328-5224). ■

One Minute With Diabetes

Diabetic Children and Camps

Doctor, my nine-year-old son has had insulin-dependent diabetes for two years. I am afraid to let him out of my sight for fear that he will eat food that he should not or will have a hypoglycemic reaction. I occasionally find evidence that he has been cheating on his meal plan by getting into the cookies or cereal. I give him his insulin and test his blood glucose twice a day. What should I do?

This nine-year-old sounds very normal to me. It is time for the mother to begin shifting the responsibility for adequate diabetic care to her son as well as time that he learn the rules necessary for reasonable diabetic control. Then he will be more willing to cooperate.

Children seven to nine years old gradually will assume the administration of their own insulin and testing if encouraged to do so. The term "gradually" is important because accuracy of dose and technique of administration are things that must be monitored by an adult until confidence is acquired. This is especially true if insulin mixtures are used. Sometimes a shared program works well in transition. In a shared program, the parent and the child take turns in giving insulin and blood glucose testing.

Blood glucose testing by capillary glucose monitoring equipment is easy to do. Understanding the value of the procedure, children usually take over without a problem. The important thing is for them to understand the value of the test and to recognize that they feel better when the diabetes is adequately controlled.

Cheating on the diet or meal plan is not a problem specific to diabetic children. Any normal child will come into the house and help himself to cookies or any other food in sight because he is hungry. Scolding or criticizing is not in order. Ask your physician or dietitian to consider increasing the meal plan or adjusting the foods to add a snack in the plan whenever he might be hungry. Place that food or fruit where it is readily available when he comes into the house and everyone will be happier.

Camps for diabetic children are very helpful for the child to learn self-care, responsibility, and that he is not alone in the world with diabetes. Camps help parents gradually become willing to allow some sharing of the responsibility of the diabetic patient's care. Nearby Camp Glyndon (in Glyndon MD) is available to all diabetic children from seven through fifteen years old. The sessions for the coming season are:

Age	Camp Dates
7 to 9 years	August 6 to 11, 1989
10 to 12 years	July 16 to 28, 1989
13 to 15 years	June 25 to July 7, 1989
Family session	July 9 to 14, 1989
Family session	July 30 to August 4, 1989

The tuition is $225 per week per person but campers hips are available for those who can only pay a part or none of the tuition. The Maryland Affiliate of the American Diabetes Association operates Camp Glyndon. Anyone interested in referring a camper should request an application by telephone (1-301-486-5515) or letter (3701 Old Court Rd., Ste. #20, Baltimore, MD 21208.

General, church, privately operated, and scout camps also are available for children. If the medical staffs of those camps are equipped to manage diabetes care and the parent has checked them out, certainly such camps can be used. All camps offer facilities for gradually developing children's responsibility, provide recreation, teach crafts, and permit parents to accept the fact that their children are growing up.

It is always gratifying to observe the improved diabetic care and the maturity of the children when they return to the office for their first appointment after attending a camp session.

DeWITT E. DeLAWTER MD
Editor ■

Medicolegal Hotline for Any Emergency

April	**Alan V. Abrams MD**	**301-494-1191**
	Philip C. Federico Esq	**301-234-1000**

LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state. The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and policies Governing the Practice of Medicine in Maryland.

■ ■ ■

Medical Records - Ground for Disciplining Physician

The State Board of Physician Quality Assurance has interpreted one of the grounds for disciplining a physician for failure on proper request to provide details of a patient's medical record to another physician or hospital in the following manner:

- "Details," at a minimum, is a written summary of the patient's medical history including a summary of any diagnostic test requested and test results received that assures continuity of medical care. Obviously, providing the patient's complete medical records complies with this section.
- "Proper request" means a request in writing from the patient or the legal representative of the patient.
- "Provides" means to send in a reasonable time (normally within *two weeks* of receiving the request or sooner, if there is an emergency situation, but in any case, not later than four weeks).
- "To another physician or hospital" means exactly that.

In addition, the Board indicated that the licensed physician may charge the patient a reasonable fee when complying with this section; however, the physician may not hold up the providing of details of a medical record dependent on payment of this reasonable fee.

Advertising - AMA Revised Opinion

As a result of an investigation by the FTC into the AMA's opinion on advertising, several minor changes were made in Ethical Opinion 5.01. For example, where the prior opinion had stated "Claims regarding experience, competence, and quality of the physician's service may be made if they can be factually supported and if they do not imply that he has an exclusive and unique skill or remedy," the revised opinion says "Because physicians have an ethical obligation to share medical advances, it is unlikely that a physician will have a truly exclusive or unique skill or remedy. Claims that imply such a skill or remedy, therefore, can be deceptive." Similarly, the prior opinion had stated that, "Testimonials of patients, however, as to the physician's skill or the quality of his professional services should not be publicized," the revised opinion says "At the same time, however, physicians are advised that certain types of communications have a significant potential for deception and should therefore receive special attention. For example, testimonials of patients as to the physician's skill or quality of his professional services tend to be deceptive when they do not reflect the results that patients with conditions comparable to the testimoniant's condition generally receive."

For a copy of the entire revised opinion, please contact the Legal Offices at Med-Chi.

Medical Exemption Provision of Maryland's Safety-Belt-Use Law

Med-Chi's Council strongly supports the use of safety-belts, recognizing that the chances of surviving a motor-vehicle crash are greater when occupants are properly restrained.

Maryland law requires automobile drivers and front-seat passengers to wear safety-belts but provides for the possibility of medical exemption from the law for a driver or front-seat occupant who possesses a written verification from a physician stating that he/she is unable to wear a safety seat belt system for physical or medical reasons; or from a psychiatrist or other specialist qualified to make an informed judgment indicating that he/she is unable to wear a safety seat belt system for psychological reasons.

Decades of experience have proved that safety-belts prevent or mitigate serious or fatal injuries by more than 50 percent. In Maryland, their use could prevent several hundred deaths each year. Additionally, thousands of serious or disabling injuries could be avoided.

In countries and states where safety-belt use is required, less than 1 percent of all motor-vehicle-related injuries are caused by the belt per se, and of that small percentage, the unrestrained occupant would have been more seriously injured if unbelted.

To be most effective, safety-belts should be worn low over the bony pelvis, 2 to 4 inches below the waist, low on the lap, and against the thighs. A safety-belt is properly adjusted when the lap belt is snug and low across the hips and when all of the slack has been removed from the shoulder belt. The shoulder belt should rest as close to the chest as possible and never be worn under the arm.

Since safety-belts are proved lifesavers, giving medical exemptions from the safety-belt-use law is not recommended. There are no routine medical grounds which can be cited for granting medical exemptions to the safety-belt-use law. Each case should be decided on its own merit. If a person is fit to be in control of a vehicle, the evidence indicates that he or she is fit to wear a safety-belt.

Most reasons patients give for wanting medical exemptions result from lack of knowledge. For many patients, an explanation of the purpose and correct adjustment of the safety-belt is enough. Some patients need to be encouraged to adapt the restraint system to their condition (for example, adjusting the position and height of the car seat). In almost all cases, patient education is the answer, not a medical exemption.

A request for exemption should be referred to the practitioner treating the patient for the condition in question. Ultimately, the decision to exempt a patient from safety-belt use rests with the individual physician. Therefore, keeping records of all exemption requests is strongly recommended. If the exemption request is not granted, the reason for denial should be documented.

It is conceivable that physicians who choose to grant medical exemptions may be sued by unrestrained patients subsequently injured in accidents. Physicians granting medical exemptions may be called upon to defend them in court.

If a medical exemption is granted, the physician should keep a record of the medical reason given by the patient for needing the exemption, the documentation of the basis for granting the exemption, and the exemption expiration date. For temporary conditions, a medical exemption should be granted for no more than one year and renewed if necessary.

There are no routine medical grounds wich can be cited for granting medical exemptions to the safety-belt-use law.

The following is a list of special conditions and directions for proper safety-belt use in each of these circumstances:

Pregnancy: Based on research and experience from countries and states with safety-belt use laws, pregnancy at any stage is not a reason for an exemption. In sudies of belted pregnant women involved in motor-vehicle crashes, there has been no evidence of increase in injuries to the fetus or in fetal loss as a result of proper safety-belt use.

Pregnant women should be instructed to position the belts correctly; the lap belt should lie comfortably below the anterior superior iliac spines and the shoulder belt across the costal margin, the sternum, and the clavicle. Thus, no part of the belt is allowed to compress the uterus. In the latter stage of pregnancy, a seat-belt extender may be needed and is available from car dealers.

Musculoskeletal and Disabling Conditions: A correctly worn safety-belt should not restrict the motion of a patient with arthritis of the neck and shoulders. Certain severe abnormal skeletal conditions or orthopaedic devices may make it difficult to fasten a safety-belt properly. These patients should be passengers and are advised to ride in the back seat where they are not required to buckle up. A driver must buckle up.

Physically disabled people will benefit from the use of safety- belts because of the stabilization provided by the restraints.

Scars: Well-healed scars on the chest or abdomen are not harmed by a correctly positioned safety-belt. Occasional irritation and pain have resulted from prolonged wearing of a safety-belt, which is often too loosely positioned, allowing a certain amount of friction and movement over parts of a scar.

Recent, tender, or painful scars may require a foam pad taped to the skin over which the safety-belt lies or taped to the safety- belt itself to prevent irritation and pain.

Pacemakers: Pacemakers are commonly implanted in the upper part of the anterior chest just below the clavicle; however, safety-belts do not generally cause discomfort to the wearer or damage to the pacemaker itself. If the pacemaker has been recently implanted and the surgical wound is still painful, follow the recommendations for recent scars.

Should the wearer be involved in an accident and the pacemaker receive a direct blow, the wearer should have the pacemaker checked for malfunction. However, no malfunctions have been observed clinically or experimentally as a result of safety-belt use.

Ileostomies and Colostomies: Ileostomies and colostomies do not interfere with the use of a correctly worn safety-belt. People with ileostomies and colostomies who have been involved in motor-vehicle crashes while wearing safety-belts have occasionally suffered irritation of the exposed mucosa with some bleeding or even tearing of the mucosa from the stoma wall caused by sudden constriction of the safety-belt. Such injuries are relatively minor compared to what may result from not buckling up.

Psychological Conditions: Patients with claustrophobia can be helped to accept safety-belts by an explanation of the need and reasons for their use. A demonstration of safety-belts as part of the vehicle's operation could serve to overcome such phobias.

Special Height or Weight Conditions: People under five-feet tall may find that the shoulder belt crosses their necks, causing discomfort. They should be referred to their car dealers for possible adjustment of the height of the seat, installation of a power seat, or repositioning of the upper safety-belt mounting point using a drop link. Adjustment of the position or tension of the safety-belt with a comfort clip or the "window shade" feature may also help to alleviate the problem.

People who are extremely obese and find that the safety-belt does not reach across their abdomens should be referred to their car dealers for modification of the existing belt, a safety-belt extender, or for replacement with a more appropriate belt.

Conditions of the Breast: Breast irritation and mastitis are rarely caused by belt use. When the safety-belt is repositioned or the tension of the safety-belt is reduced by the use of a comfort clip, padded safety-belt wrap, or the "window shade" feature, the condition is resolved quickly.

For additional infomation on this and other safety-belt related issues, please contact the Maryland Committee for Safety Belt Use, Inc., 820 Ritchie Highway, Severna Park, MD 21146 (301-544-3603).

This article was written in conjunction with the Maryland Committee for Safety Belt Use, Inc., and is based on state and national research results supplied by that organization.

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BRIEF SUMMARY

CONTRAINDICATIONS
There are no known contraindications to the use of sucralfate.

PRECAUTIONS
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

Pregnancy: Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

OVERDOSAGE
There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
CARAFATE (sucralfate) 1-gm tablets are supplied in bottles of 100 (NDC 0088-1712-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1712-49). Light pink scored oblong tablets are embossed with CARAFATE on one side and 1712 bracketed by C's on the other. Issued 1/87

Reference:
1. Eliakim R, Ophir M, Rachmilewitz D: *J Clin Gastroenterol* 1987;9(4):395-399.

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History of Bacteriology in Maryland through 1925

John Collinson MD, DrPH (1886 - 1950)

The son of John Collinson MD, Dr. Collinson was born at South River, Anne Arundel County, Maryland, December 31, 1886. He received an AB from St. Johns College, Annapolis, in 1907 and the MD from the University of Maryland in 1911. He was chief of the Bureau of Vital Statistics, Maryland State Department of Health, at the time this article was written. Editor

Perhaps the person with the greatest influence on the development of bacteriology in Maryland was Dr. William H. Welch, who, with Dr. T. Mitchell Prudden, is credited with having brought the experimental science to America.

Bacteriology in the State of Maryland has had a history of rapid growth and great achievement. The extension of teaching and laboratory service accelerated, and the work of pioneer students received attention and encouragement. The services of today's bacteriological laboratory are regarded as a matter of course in hospital procedure, and to a large extent they have become the foundation of private practice. In public health they are an essential part of communicable disease control and epidemiological investigation.

The teaching of this science has been outstanding, and the formal courses introduced in the medical schools of the Johns Hopkins University in 1887 and the University of Maryland in 1893 have trained many of the most eminent bacteriologists in the United States. The gradual increase of interest in the subject during the latter half of the nineteenth century is reflected in the Annual Reports of the Departments of Health of Baltimore City and the State of Maryland.

Within the period from 1887 until 1898 papers and reports emphasized the importance of bacteriological examinations. Since the establishment of Baltimore City's diagnostic laboratory in 1896, branches of this service have spread throughout the state. Perhaps the best known of the varied contributions of students of bacteriology here has been the work on yellow fever, dysentery, and malaria.

Teaching

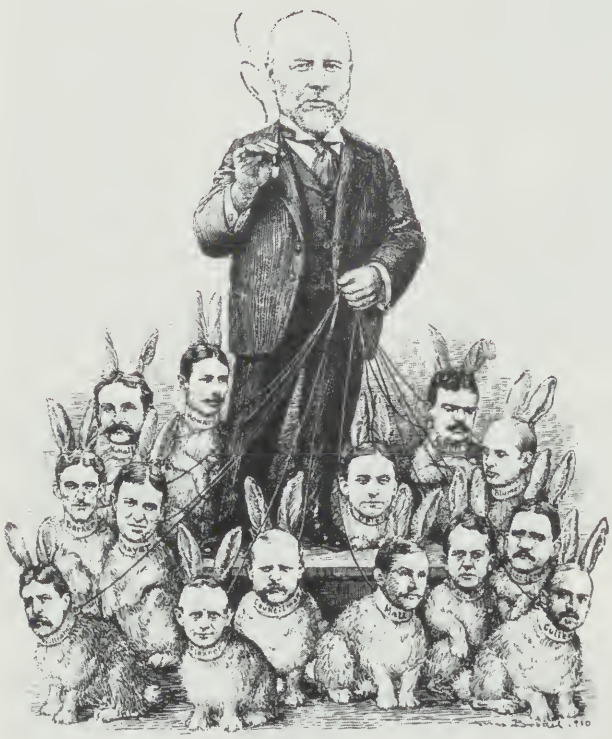
Johns Hopkins University The first teacher of bacteriology in Maryland was Dr. Henry Newell Martin, professor of biology at Johns Hopkins University, 1876-1893. At this time bacteriology was as much a part of physiology as it was a part of botany, and into these courses Martin introduced lectures on bacteriology, particularly on the relation of bacteria to spontaneous generation.

His talks and demonstrations were among the earliest given in the United States.

In 1880 Dr. George M. Sternberg (one of the pioneer American bacteriologists, a surgeon in the United States Army, and later surgeon general) associated himself with Martin and started a bacteriological laboratory in the Physiology Building of the University. His status was that of a fellow-by-courtesy. He studied bacteriology according to the methods of Pasteur and had approximately six students working under him until the laboratory was discontinued in 1885.

In September 1885 Dr. William H. Welch arrived in Baltimore and, with Dr. W. T. Councilman as associate in pathology, set up a laboratory in two rooms on the top floor of the biological laboratory. Welch did not wait for the opening of the hospital or the medical school to start active teaching and to get research under way. The first group to assemble under him were Drs. Councilman, A. C. Abbott, B. M. Bolton, F. P. Mall, and G. H. F. Nuttall. In the winter of 1885-1886, he lectured on pathology to physicians and advanced students of biology, giving a series of nine lectures on microorganisms in disease each Wednesday from February 3 to March 31, 1886 in the Hopkins Hall. Cultures and microscopic slides of pathogenic organisms illustrated the lectures.

In October 1885 the first steps were taken toward furnishing and equipping as a pathological laboratory the Autopsy Building, a two-story building on the grounds of the Johns Hopkins Hospital. The building was opened in its entirety in October 1886; in November a course in pathology was given. It was not until the next season, during March and April 1887, that Welch gave the first systematic course in bacteriology in Maryland. In November 1987 bacteriological investigations and laboratory exercises were started. The course then included the methods of isolating and of cultivating microorganisms and the morphological and the biological properties of the most important species, particularly of the pathogenic forms.



"Some Welch Rabbits" Drawing by Max Brödel

The laboratory was supplied with a complete set of apparatus for bacteriological work. Welch was assisted by Dr. B. Meade Bolton, a former graduate student. They had a class of seven: Drs. W. D. Booker, H. T. Brooks, S. T. Earle, F. D. Gavin, F. P. Mall, C. O. Miller, and R. L. Randolph. This course continued until the opening of the Johns Hopkins Hospital in 1889, when Welch inaugurated a more complete course in pathology and bacteriology for graduates in medicine.

At this time a systematic course in bacteriology was given during the semester on Monday, Tuesday, Wednesday, and Thursday afternoons from 2:30 to 5 o'clock. No other medical school in America had similar facilities available for instruction in pathology and bacteriology, and the number of practitioners who availed themselves of these advantages attested their value. From the start there was an increasing demand for this laboratory work. Adding to the instruction given in the laboratory by Welch, Councilman, and Abbott, Welch began a course of lectures in January 1891. These three-month lectures covered selected subjects in bacteriology, especially the relation of bacteria to the infection of wounds and the historical development of bacteriology (a lecture given by Abbott).

Instruction in elementary bacteriology was included in the curriculum of the training school for nurses from its beginning, and as early as 1890-1891 Welch lectured to the senior class on disinfection in contagious diseases. Abbott's textbook, *Principles of Bacteriology,* and Nuttall's *Hygienic Measures in Relation to Infectious Diseases* were sent to the Paris Exposition of 1900 as examples of manuals used in training schools for nurses.

On October 2, 1893 the Johns Hopkins Medical School was opened with Drs. John J. Abel, William S. Halsted, William H. Howell, Henry M. Hurd, Howard A. Kelly, Franklin P. Mall, William H. Welch, and Sir William Osler as heads of the various departments. At this time the hospital's graduate work ceased, and the courses for physicians were taken over by the medical school.

During the first three months in 1894 a course in bacteriology was given, and one in pathology for the last remaining five months as part of second year's work. Thus Welch's department taught both pathology and bacteriology, recognizing that bacteriology was a major medical discipline. Maryland was among

Students of Bacteriology in Maryland*

Abbott, Alexander C (MD) Univ Md, 1884; grad student JHU 1885-87; Univ Berlin, 1887-89; Univ Munich 1912. Asst bac JHU 1889-91; lect hyg 1896-1906. Professor of hygiene and bacteriology and director of School of Hygiene, Univ Penn 1891- . Author: *The Principles of Bacteriology*, 1892,1921; *The Hygiene of Transmissible Diseases*, 1899,1902.

Armstrong, Charles (MD) JHU 1915. Surgeon USPHS Hygienic Laboratory Washington, DC.

Bassett, Victor H (MD) JHU 1903; fel in path 1904-05. Instr bac and clin path, Northwestern 1903-04; prof path Wis Coll of P and S 1905-06; assoc prof path, Milwaukee Med Coll 1906-08. Health Officer Savannah Georgia, 1908- .

Bayne-Jones, Stanhope (MD) JHU 1914. Instr path 1915-17; assoc bac 1917-20; assoc prof 1920-23. Prof bact Univ of Rochester.

Bolton, Benjamin Meade (MD) Univ Va, 1879; grad student Univ of Heidelberg 1883-84; Gottingen 1884-86; Berlin 1886; JHU 1886-87; 1892-93. Asst bac JHU 1886-88; assoc in path 1892-95; prof hyg and bac S C Coll 1888-89; director bac dept Hoagland Lab 1889-92; dir of lab, Board of Health Phila 1895-96; prof path and bac U of Mo 1896-97; later expert in exp therapeutics bur of Anim Ind Wash; biologist Md. Agrl Expt Sta 1914-15; expert in dis of anim Cuban Agrl Expt Sta 1914-15; dir Virchow lab St. Louis 1917-19; pathologist New Samaritan Hosp Sioux City I 1920-21; Pathologist St. Joseph's Hosp Paterson NJ 1921- .

Booker, William D (MD) Univ Va 1867; grad student JHU 1876-1879 86-91. Clin rep Balto Inf 1867-68; dean prof of physiol and of dis of chil Women's Med Coll Balto 1882-93; lecturer and clin prof dis of chil JHU 1892-09; emeritus 1909-21. Died 1921.

Brown, J Howard (PhD) Harvard U 1917. Asst comp pathol Harvard 1910-17; asst assoc anim pathol Rockefeller Inst Med Res 1917-23. Assoc prof bac JHU 1923- .

Cole, Rufus I (MD) JHU 1899. Instr assoc med JHU 1901-09. Dir hosp of the Rockefeller Inst 1909- .

Councilman, William T. (MD) Univ Md 1878; grad student JHU 1878-80; Vienna 1880-82; fellow by courtesy JHU 1882-84. Assoc assoc prof pathol JHU 1884-92. Shattuck prof pathol anat Harvard U 1892- .

Darling, Samuel T (MD), Univ Md (coll of P and S) 1903; grad student JHU 1921-23. Chief of lab Panama Canal 1906-15; chmn brd under Rockefeller Foundation, to investigate causes of anemia among people of Malaya, Java and Fiji 1915-17; prof hyg and dir lab of hyg Faculdade de Medicine Dirurgia de sao Paulo, Brazil, 1917-20; League of Nations Malaria Commn. Died 1925.

Dick, Gladys Henry (MD), JHU 1907. Asst in med 1908-10 JHU; assoc pathol Rush Med Coll; Path St. Luke's Hosp 1918-19. Fellow John McCanuck Inst for Infect Dis.

Dochez, Alphonse R (MD), JHU 1907. Assoc prof med JHU 1919-21. Assoc prof med Coll of P and S Columbia U 1921- .

Flexner, Simon (MD), Univ Louisville 1889; grad student JHU 1890-91; Univs of Strasburg Berlin Prague and Pasteur Inst Assoc assoc prof in Pathol prof of pathol anat JHU 1892-99; prof of pathol Univ Penna 1899-1903. Director Rockefeller Institute 1903- .

Ford, William W (MD) JHU 1898; fellow McGill U 1899-1901; Rockefeller Inst 1901-02. Instr assoc assoc prof of hygiene and bacteriology JHU 1903-17; lec and assoc prof of bac JHU School of Hygiene 1917-22. Prof of bac School of Hygiene 1922- .

Frobisher, Martin Jr (DSc) in Hyg JHU 1925. Instr in bact School of Hygiene and Public Health 192- .

Gay, Frederick P (MD) JHU 1901. Asst on Johns Hopkins Med Commn to Phillippines 1899; asst demons pathol Univ Penna 1901-03; fellow, Rockefeller Inst for Med Res 1901-03; research stu Pasteur Inst Brussels 1903-06; bact Danvers Insane Hosp 1906-07; asst and instr pathol Harvard Med School 1907-10; prof pathol Univ Calif 1910-21; prof of bact Univ Calif 1921-23. Prof of bacteriology, Columbia University 1923- .

Hachtel, Frank W (MD) Md Med Coll 1904; student in bact and parasit under Dr. Charles Simon 1905-07. Bact to Baltimore city Health Dept 1908-20; assoc prof bact Univ Md 1920-24. Professor of bacteriology, Univ Md 1924- .

Harris, Norman MacL (MB) Univ Toronto 1894; special courses for physicians JHU 1896-97. Asst in pathol 1897-1900; assoc in bact 1900-03, JHU; asst prof of bact, Univ of Chicago, 1903-19. Chief, lab of Hyg, Dept of Health, Canada.

Howard ,William T (MD) Univ Md. 1889; grad student in histology JHU 1889-90;1891-94. Prof pathol, Western Reserve Univ 1894-1914. Lec in biometry and vital statistics, School of Hygiene and Public Health JHU 1919- .

Hussey, Raymond G (MD) Univ Md 1911. Assoc prof pathol Cornell U Med Coll Prof of Path, Yale Univ School of Med.

Kendall, Arthur I Grad student JHU, 1902-03; fellow 1903-04(PhD) (bact) Instr Dept Prevent Med Hyg Harvard 1909-10; prof bact Northwestern 1910-23, dean 1916-23. Prof of bact pub health Washington Univ 1923- .

MacCallum, Willliam G (MD) JHU 1897. Asst, assoc, assoc prof, and prof in pathol JHU 1898-1909; prof of pathol Columbia 1909-17. Baxley prof pathol and bact JHU 1917- . Author: *Textbook of Pathology*, 1916.

Manwaring, Wilfred H (MD) JHU 1904. Assoc prof pathol Ind Univ 1905-07. Prof bac exp pathol Stanford U 1913- .

Marshall, Harry T (MD) JHU 1898; fellow in path 1899-1900. Asst in path 1900-03; inst in med 1903-05; inst in ped 1905-06, JHU; prof pathol Univ of Phillippines Med School 1906-08. Prof of path and bact Univ of Va 1908- .

Maxcy, Kenneth F (MD) JHU 1915; DPH 1919-21. Asst surgeon USPHS

McBryde, Charles N (MD) JHU 1897. Bacteriologist Biochemical div U S Dept of Agriculture.

Moss, William L (MD) JHU 1905. Inst in med 1908-10; assoc 1910-14 JHU Asst prof Harvard Med School.

Nuttall, George HF (MD) Univ Calif 1884; grad student JHU 1985. Asst assoc in bact JHU 1991-23; lecturer 1912; univ lecturer on bact and prev med Cambridge Univ 1900-06. Professor of Biology Cambridge Univ 1906- .

Opie, Eugene L (MD) JHU 1897; fellow in path 1998-99. Asst instr and assoc in pathol 1898-1904; prof of exp path Univ of Penn. Director laboratories of the Henry Phipps Institute 1923- .

Perkins, Roger G (MD) JHU 1898. Lect bact, asst prof pathol, bact, assoc prof pathol hyg, prof hyg, prev med Western Reserve Med School 1901- .

Salter, Raymond D (DSc) in Hyg (Bact), JHU, 1920. (First to receive DSc from School of Hyg and Ph) Inst in bact School of Hyg and PH 1920-25. Chief Bur of Bact Md St Dept of Health. Died 1925.

Schultz, Oscar T (MD) JHU 1903. Asst prof of pathol Western Reserve 1903-13; prof bact pathol Univ Nebr 1913-16. Director, Nelson Morris Inst for Med Research.

Simon, Charles E (MD) Univ Md, 1890; spec courses for physicians JHU 1890-91. Opened first clin lab in Balto 1897. Prof clin pathol and physiol chem Univ Md 1910-20; fellow by courtesy School of Hyg and PH 1920-21; lecturer, med zool JHU 1921-23. Resident lect med zool div of filterable viruses JHU School of Hyg and PH 1923- . Mng ed *Amer Jour of Hyg* Author: *Clinical Diagnosis 1896; Physiological Chemistry 1901; Infection and Immunity; 1911; Human Infection Carriers 1919.*

Spencer, Hugh R (MD) Balto Med Coll 1910; fellow by courtesy JHU 1911-13. Prof pathol and bact Balto Med Coll 1912-13; prof pathol bact Univ Md 1913-20; prof pathol 1920. Pathologist to the Univ Hosp and Mercy Hosp Balto., Md.

Strong, Richard P (MD) JHU 1897. Prof trop med, surg Univ Philippines 1907-13. Prof Harvard Univ 1913- .

Stokes ,William Royal (MD) Univ Md 1891; grad student JHU 1891-93. Prof pathol bact Coll of P and S 1901-15; prof of path and bact Univ Md 1915-20; prof bact immun Univ Md 1920- . Dir bac labs St. of Md. and Balto City Depts of Health 1898-1920; dir Bur Bact Balto City Health Dept 1920- .

Wright, James H (MD) Univ Md 1892; grad student in pathol JHU 1890-91. Asst instr and asst prof in pathol Harvard Univ 1893-94. Dir pathol lab Massachusetts Gen Hosp 1896- .

*Because this list was compiled by Dr. Collinson about 60 years ago, many dates were left open. In his words, "the growth of the science in Maryland [has showed] contiued evidence of progress in all fields." Filling in the blanks would be a challenge for modern-day medical historians. *Editor*

the first places in the United States to make that distinction. The instruction in pathology and bacteriology was under Dr. Welch as professor of pathology, with Dr. Simon Flexner serving as associate in pathology and Dr. Bolton as associate in bacteriology. Students were expected to become familiar with the preparation of culture media; the principles of sterilization and disinfection; the methods of cultivating, staining, and studying bacteria; the biological examination of air, water, and soil; and the important species of known pathogenic microorganisms. This course has been continued with few changes until the present.

Welch also lectured on infection and immunity and, from time to time, gave special lectures on selected topics. Opportunity was offered for advanced work and special research. A limited number of trained physicians were admitted to the regular courses, and special courses were provided for physicians during May and June. This work included elementary bacteriology; sanitary bacteriology, including water and milk; technique of agglutination, haemolysis and the immunization of smaller animals. These courses were discontinued in 1907; after that time postgraduate students were admitted to the regular classes.

Since 1916 two courses in bacteriology have been offered by the medical school. General bacteriology, taught in the third trimester of the first year, is an introductory course and concerned with methods and the study of bacteria and their relation to disease. A course in serum-study and advanced bacteriology is open to a limited number of students of the third- and fourth-year classes to provide them with an opportunity to gain laboratory experience in the fundamental and recent methods of immunology.

On April 26, 1917 Welch resigned the professorship of pathology which he had held since 1884. His successor was Dr. W. G. MacCallum, professor of pathology at Columbia University, a graduate of the first class of the Johns Hopkins Medical School and later a member of the faculty. Dr. W. W. Ford, associate professor of hygiene and bacteriology and a member of the Department of Pathology since 1903, was followed by Dr. Stanhope Bayne-Jones, and Dr. Lloyd D. Felton was made an instructor. Dr. William L. Holman was the next associate professor, during 1923-1924, after which the position has been held by Dr. J. Howard Brown.

School of Hygiene and Public Health On June 12, 1916 a School of Hygiene and Public Health was established at The Johns Hopkins University through a grant from the Rockefeller Foundation. Dr. Welch became director. The Department of Bacteriology was established under Dr. Ford, the Department of Immunology under Dr. Carroll G. Bull, and the Department of Protozoology under Dr. Robert Hegner. Courses in elementary and advanced bacteriology were at first offered and later supplanted by specific courses in sanitary bacteriology, public health bacteriology, public health laboratory practice, spirochaetes and venereal infections, methods of cultivating and identifying anaerobic bacteria, and the physiology of bacteria. The courses in immunology include elementary training in serological reactions and in the principles of immunology; lectures, demonstrations, and conferences on relevant topics; and opportunities for research. Work in elementary and advanced protozoology, parasitology, and malariology is offered by the Department of Protozoology.

University of Maryland, School of Medicine Bacteriology was first taught at the University of Maryland School of Medicine as a part of the course in pathology during the 1893-89 session. One lecture a week was delivered by Dr. Charles W. Mitchell, and six hours a week in three two-hour periods were given to the laboratory work for two months in the third year. Dr. Caspar O. Miller was in charge of the laboratory work. In bacteriology the student was taught to stain and recognize the pyogenic cocci, the gonococcus, the diphtheria bacillus, and the tubercle bacillus. Hanging-drop preparations of the typhoid bacillus were demonstrated. In 1895 Miller became associate professor of histology and pathology, and at the same time bacteriology was placed in the curriculum of the second year. Two years later the laboratory work was extended to three months.

Dr. William Royal Stokes was appointed associate professor of histology and pathology in 1898, and in 1900 associate professor of pathology and bacteriology. In this latter year the laboratory course was transferred to the third year and continued throughout a semester. From that time the head of the department has been Visiting Pathologist to the University Hospital. Under Stokes the student's work load increased to include the preparation of culture media; the principles of sterilization and disinfection; laboratory technique; the morphological, cultural, and biochemical characteristics of disease-producing bacteria and their serological reaction; the results of their inoculation into animals; and the application of bacteriology to the diagnosis and prevention of disease. Lectures were given on infection and immunity.

Dr. Jose L. Hirsh succeeded to the chair in 1901. In 1902 he was made professor and held this position until the consolidation of the College of Physicians and Surgeons with the University of Maryland School of Medicine.

A new building erected on Greene Street north of Lombard to accommodate various laboratories was first occupied in the academic year 1904-1905. Prior to that time the teaching of both pathology and bacteriology was done in the Gray Building. In 1905 the laboratory course was extended to five two-hour periods each week for a semester; in 1908 bacteriology was again placed in the curriculum of the second year.

At the beginning of the school year in 1915, the College of Physicians and Surgeons became a part of the University of Maryland School of Medicine, and Dr. Stokes took the chair of pathology and bacteriology. The department was divided in 1919, and Stokes

continued teaching as professor of bacteriology and immunology.

In 1920 the School of Medicine and the other professional schools combined with the various schools at College Park to form the University of Maryland, and the control of the University passed to a Board of Regents appointed by the Governor and confirmed by the Senate. There was a reorganization of this department concurrently with the establishment of the State University. Dr. Frank W. Hachtel was appointed as full-time teacher, though Stokes remained head of the department. Instruction in bacteriology was then given in the second semester of the first year. Ten hours of laboratory work a week were devoted to the subject, supplemented by 30 lecture hours. Immunology was presented to the second-year class in the first semester in two three-hour laboratory periods a week and 16 lecture hours. The teaching of both subjects was done in the building of the College of Physicians and Surgeons. In 1924 the head of the department was placed on a full-time basis but Stokes continued teaching actively.

College of Physicians and Surgeons Bacteriology seems to have been introduced into the curriculum in the academic year of 1896-1897. At that time Dr. N. G. Keirle was professor of pathology and Dr. John Ruhrah demonstrator of bacteriology. Cultures of various pathogenic bacteria were studied. At the beginning of the session of 1899-1900, the new college building opened with its increased facilities for laboratory teaching. Two years later Dr. Stokes was appointed professor of pathology and bacteriology. The instruction was changed considerably and enlarged to include subjects comparable to those presented at the University of Maryland. At the end of the 1914-1915 session, the College of Physicians and Surgeons became an integral part of the University of Maryland School of Medicine.

Baltimore Medical College In the 1890-1891 session a brief course in bacteriology was given to the graduating class by Dr. Caspar O. Miller. This consisted of lectures and the staining and recognition of such microorganisms as the ordinary pyogenic cocci, the gonococcus, the diphtheria bacillus, and the tubercle bacillus. The next year Dr. F. W. Gavin succeeded Miller, to be followed in a year by Dr. W. T. Howard, Jr., who remained as lecturer in pathology until the end of the 1894-1895 session. During this time a laboratory course was instituted that included the study of the morphology and the cultural characteristics of bacteria. In 1895 Howard resigned and Dr. Delano Ames was appointed lecturer in pathology.

In 1896 bacteriology instruction was separated from the teaching of pathology, and Stokes became lecturer in bacteriology. The course was then reorganized and its scope considerably broadened. From this time until the amalgamation with the University of Maryland, the content of the course was little altered.

Dr. Stokes was succeeded in 1898 by Dr. Charles Potter who the following year was made associate professor of pathology and bacteriology. In 1902 Dr. T.R.W. Wilson became lecturer in pathology and bacteriology, and in 1904 Dr. Tilghman B. Marden was appointed to the chair of biology, histology, and bacteriology.

Beginning in January 1909 the course was taught in the new laboratory building at 847 North Howard Street. In 1911 Dr. F. V. Beitler became professor of pathology and bacteriology, to be succeeded the next year by Dr. Hugh R. Spencer. At the end of this academic year the school was absorbed by the University of Maryland.

Other Institutions The beginnings of bacteriology at the College and Experiment Station of the University of Maryland were closely connected with the work on animal diseases. The first mention of it is made in the catalog of instruction for 1895 in connection with a course taught by Dr. M. P. Scott known as "Sanitary Science." Subjects included air, water, and foods wholesome or injurious to health; microscopic examination of the same; and means of guarding against preventable diseases. The work seems to have been applicable to both man and animals.

The first part-time bacteriologist was added to the staff in 1898. Chemist, Charles F. Doane was appointed assistant in dairying and bacteriology. He published what were possibly the first bacteriological studies coming from this institution. Bacteriology was taught in the Department of Veterinary Science from 1903 to 1906 and from 1909 to 1914, having been dropped from the curriculum during 1906-1909. At the beginning of the academic year 1914-1915, it was taken over by the Department of Chemistry and Bacteriology, and in 1918-1919 was included as a separate department of the Animal Industry Group. Laboratory space in the Agricultural Building was obtained and equipment purchased and installed. Two courses were given that year and four in 1919-1920 when considerable time also was spent in research. In 1920-1921 a curriculum was outlined for students wishing to specialize in bacteriology, and seven courses were offered, one for graduate students only. Two more courses were added in 1921-1922, but few changes have occurred after this time.

Two courses in bacteriology were introduced by the Department of Physiology and Hygiene at Goucher College in 1918, under the direction of Dr. Lillian Welsh and later Dr. Jessie L. King. Since then these courses have dealt with nonpathogenic organisms; the bacteriology of water, milk, and foods; and consideration of important pathogens. Other undergraduate institutions in the state offering introductory courses in this science include St. John's College, St. Joseph's College, Hood College, Mount St. Mary's College, Maryland College for Women, and Morgan College.

Diagnostic Laboratories

The establishment of clinical laboratories in connection with the hospitals paralleled the development of

courses in bacteriology and pathology at the medical schools. The first clinical laboratory to be established in Maryland was probably that at the Johns Hopkins Hospital. Since then laboratories have been established in the hospitals of Baltimore City and certain counties; many private laboratories have been opened by individuals; and the chain of public health laboratories throughout the state consists of a laboratory at the Baltimore City Department of Health, a central laboratory at the Maryland State Department of Health, and five branch laboratories in various counties.

Johns Hopkins Hospital When the Johns Hopkins Hospital was opened in May 1989, Welch was appointed pathologist; Dr. W. T. Councilman, associate in pathology; and Dr. Alexander C. Abbott, assistant in bacteriology and hygiene. The work of the bacteriological laboratory, formerly carried on by the University, was assumed by the hospital September 1, 1889; the first examinations for the presence of tubercle bacilli in the sputum of patients were personally carried out by Dr. Welch. The clinical laboratory was opened in 1896 under the direction of Dr. William Osler. Here, analyses of blood were routinely made to ascertain the presence of organisms (such as malaria) and parasites. A hygienic laboratory also was equipped and made ready for practical work under the direction of Drs. Billings and Abbott. The work of this laboratory included the bacteriological examination of water. The results of original investigations in these laboratories were reported at the meetings of the Johns Hopkins Hospital Medical Society, organized by Welch October 22, 1889.

In 1897 a new clinical laboratory was erected with rooms for special research in bacteriology. This laboratory was reorganized in 1907 under Dr. Rufus Cole and his seven assistants.

The new pathological building, started in 1921, was completed during 1923, thoroughly equipped and adapted to the work of the department.

University Hospital The clinical laboratory of University Hospital was established in the summer of 1895. A microscope and a small room were given to Dr. W. I. Messick by the hospital, and he equipped this room as a laboratory. At first routine urine analyses and blood counts were made, and gastric analyses were done later. Messick, with the encouragement of Dr. Randolph Winslow, gradually extended the work and trained the resident physicians and interns in laboratory methods. When the new hospital building was completed in 1897, a room on the third floor near the amphitheater was fitted as a laboratory.

After the resignation of Messick as clinical microscopist in 1899, the laboratory examinations were made by a succession of resident pathologists. Dr. Howard J. Maldeis was placed in charge in 1907 and remained until 1920. During his regime the laboratory was expanded from one room to its present size, and the staff was increased by the gradual addition of two technicians and a "diener."

After Maldeis's resignation the laboratory was reorganized and a full-time director appointed. Dr. Paul Clough assumed this position in 1920, to be followed in 1922 by Dr. S. Lloyd Johnson. When this reorganization occurred, the surgical pathology and the postmortem examinations were transferred to the Department of Pathology of the University of Maryland School of Medicine. During the period 1920-1925, the work of the laboratory was greatly augmented; new procedures were introduced and others modified.

City (Mercy) Hospital Many of the routine bacteriological examinations, including the blood work and gastric analyses, were done for the patients in City Hospital by members of the graduating class in the clinical laboratory of the College of Physicians and Surgeons. About 1898, when this laboratory was first organized, the work was immediately supervised by Dr. Julius Friedenwald, assisted by Dr. Thomas R. Brown, Dr. Hubert C. Knapp, and Dr. Harvey G. Beck at various times. Dr. Keirle, as professor of pathology and bacteriology at the College of Physicians and Surgeons, was director of the laboratory until 1901, when he was succeeded by Dr. Stokes, who held this position until 1915. At that time the medical school merged with the University of Maryland, and City Hospital became an independent institution known as Mercy Hospital.

About 1899 a small room on the second floor of the hospital was used as a house laboratory with Dr. Herman Westphal as assistant resident physician-in-charge. The work of this laboratory was gradually extended to include sputum examination; blood counts; urine analyses; examinations for the organisms of malaria, typhoid fever, and other infectious diseases; and the Widal and Wassermann tests. All work was done by the clinical staff of the hospital. Dr. C. W. G. Rohrer was the first to be given the title of resident pathologist and served during the years 1901-1903. During this time the taking of tissue cultures at autopsy was introduced and developed. Dr. Rohrer was followed by Dr. Samuel T. Darling and Dr. Charles W. Judd. In 1919 the laboratory was reorganized and enlarged by Dr. H. C. Collenberg, who has been director since that date.

Other Laboratories A number of private diagnostic laboratories have also been conducted in Baltimore City. The one of greatest historical importance is that of Dr. Charles E. Simon. As early as 1897 Simon converted an old stable in the rear of 1306 Madison Avenue into a diagnostic laboratory, probably the first private venture of the sort in the country. About 1910 the laboratory was moved to 1734 Linden Avenue. It was closed in 1925 allowing Simon to devote his time completely to the Department of Filterable Viruses at the School of Hygiene and Public Health.

Public Health Laboratories

A diagnostic bacteriological laboratory was established by the Baltimore City Department of Health in

1896 and by the state in 1898, the combined work of the laboratories being under the direction of Dr. Stokes. This arrangement continued until 1920, when the state established a separate laboratory.

The interest of the State Department of Health in modern bacteriology apparently began in 1887 when Dr. B. Meade Bolton, assistant in bacteriology at The Johns Hopkins University, presented a paper, The Advantages of the Study of Bacteriology, at a meeting of the Maryland Sanitary Conference.

Bolton told of the different forms and sizes of bacteria, their development, their danger and usefulness, the importance of knowing that infectious diseases are caused by living organisms, what organism is concerned in each disease, and how this knowledge assisted in its prevention and control.

Dr. C. W. Chancellor, Secretary and Executive Officer of the State Board of Health, in his annual report for 1888-1889, discussed "The Theory of Fumigation and Germs" and "Biology and Bacteriology." He stated, "the germ theory explains better than any other the communication of disease through the medium of potable water" and also listed the conditions and sources from which disease germs enter milk.

On April 29, 1891 Dr. C. O. Miller presented a report to the Secretary of the State Board of Health on the biological examination of water at Cumberland. Miller, a graduate of the University of Virginia, was one of Welch's first students and lecturer on histology and pathology at the Women's Medical College, Baltimore Medical College and the University of Maryland. In the same report, Miller stated he had examined excreta from a child who had typhoid fever and added,

> From the feces I was enabled to isolate a bacillus which, when submitted to all the usual tests for establishing the identity of the typhoid bacillus presented all the morphological characteristics, modes of growth, and reactions as the typhoid bacillus.

In the annual report of the State Department of Health for the years 1892-1893 an account is given of an investigation of an epidemic of cerebrospinal meningitis in the George's Creek Valley by Dr. Simon Flexner and Dr. L. F. Barker, both fellows in pathology at Johns Hopkins University at that time. The report states:

> In Dr. Welch's laboratory, during the last few months, from two cases of meningitis complicating pneumonia, we have been able to isolate the microorganism, *Micrococcus lanceolatus.*

Dr. Barker also outlined the method and results of the bacteriological examination of a small loop of intestine from a patient suspected to have died from cholera in Cumberland. According to the report addressed to Dr. James A. Steuart, Secretary and Executive Officer of the State Board of Health in 1894, cholera bacilli were not found. This volume also contains findings of Dr. William T. Howard, Jr., from the bacteriological examinations of milk for tubercle bacilli and of exudate from the throat for diphtheria bacilli.

Baltimore City The bacteriological laboratory of the City Health Department was established during the administration of Mayor Alcaeus Hooper on July 1, 1896 while Dr. James F. McShane was Commissioner of Health. This action was taken after the Mayor had been interviewed earlier in the year by a committee from the Medical and Chirurgical Faculty of Maryland under the chairmanship of Dr. Welch. The committee suggested Dr. W. R. Stokes to head the laboratory. Dr. Stokes had just returned from Boston where he had served as the resident pathologist of the Boston City Hospital. This suggestion was adopted, and on July 1 Stokes took charge of the laboratory, which had been equipped under his direction during the preceding month. This embryonic laboratory occupied about two-thirds of one of the former classrooms of the old Scheib School on Gay Street near Lexington. The director, being the sole member of the laboratory force, was required to serve as bacteriologist, laboratory assistant, and telephone operator.

During the remaining six months of 1896 and up to 1900, bacteriological examinations were made in connection with the diagnosis of diphtheria, tuberculosis, and typhoid fever; the Widal test for the diagnosis of typhoid fever was also instituted; large numbers of milk and water samples were examined; and the laboratory also began the distribution of diphtheria antitoxin and started the culturing of diphtheria contacts.

From 1900 to 1904 inclusive, the laboratory continued the above examinations and added malaria. Some work was done in connection with the control of disinfection. The bacteriological examination of the city water supply, which had been started prior to 1900, was continued and examination of samples of ice cream was started. There was an increase in the number of examinations made from 1905 to 1909 in connection with the diagnosis of communicable diseases; also of samples of milk, water, ice cream, and other food products. In 1909 the personnel consisted of the director, two assistant bacteriologists, a laboratory clerk, three laboratory assistants, and a laboratory collector.

During the period from 1910 to 1913 inclusive, meningitis and cholera were added to the list of examinations, and typhoid vaccine was added to the list of biological products distributed. Between 1915 and 1920 the Wassermann test for the diagnosis of syphilis, the examination of smears for gonorrhea, the typing of specimens of sputum in connection with pneumonia, and the examination of brains of animals for rabies were instituted. To the list of biological

products distributed were added pertussis vaccine, meningitis curative serum, and tetanus antitoxin (both prophylactic and therapeutic).

There were marked increases both in the numbers and types of examinations made from 1920 through 1925. During these years bacteriological tests were made in connection with the diagnosis of diphtheria, typhoid, paratyphoid, malaria, syphilis, gonorrhea, meningitis, pneumonia, rabies, dysentery (bacillary and amebic), leprosy, Vincent's angina, and typhus fever. Examinations for intestinal parasites were performed. A method of testing the virulence of morphologically positive diphtheria cultures was inaugurated as was the dark-field examination for the early diagnosis of syphilis. Colloidal gold tests, globulin tests, and cell counts were made on specimens of spinal fluid. The medical examination of food handlers was introduced; the laboratory participated in this by making examinations of cultures for diphtheria and specimens of urine and feces for diseases of the intestinal tract. The biologicals distributed included diphtheria antitoxin, smallpox vaccine, typhoid vaccine, pertussis vaccine, meningitis curative serum, pneumonia vaccine, Type I pneumonia curative serum, scarlet fever serum, Schick test material, and toxin-antitoxin.

In summarizing the development of bacteriology in the Baltimore City Health Department, it may be noted that the personnel increased from one to 19; the number of examinations from 9,005 in 1900 to 75,541 in 1925; and the biological products distributed without charge from only diphtheria antitoxin and smallpox vaccine in 1900 to 10 different types in 1925. During this period considerable research work was carried on in addition to the routine work.

State of Maryland The report of Dr. J. S. Fulton, Secretary of the State Board of Health, to the Governor for the year 1897 emphasized the importance of the establishment of a State Bacteriological Laboratory, established the preceding year. On February 18, 1897 Dr. Welch addressed a conference of the Maryland Public Health Association on "Clinical and Bacteriological Diagnosis of Diphtheria" and the "Relation of Sewage Disposal to Public Health." Dr. Osler addressed the same meeting on "The Relation of Typhoid Mortality and Sewage."

Dr. Welch was appointed a member of the State Board of Health in 1898. In that year the legislature provided for the employment of a state bacteriologist to do such work in the interest of public health as the State Board of Health directed. The appropriation for this work was limited to $2,500 per year. The work was begun in June 1898 by the engagement of Dr. Stokes as bacteriologist. Systematic examinations for the diagnosis of diphtheria, typhoid fever, malaria, and tuberculosis were done free of cost to the physicians sending specimens. This work was carried on in the improvised laboratory of the Baltimore City Department of Health. By combining the apparatus and materials of the City with the apparatus and materials belonging to the state, a thoroughly well-equipped laboratory was maintained at small cost.

During the seven months covered in the report, the physicians in the counties of Maryland submitted 218 specimens to the laboratory for diagnosis, and 81 samples of water were examined. Specimens were reported as positive or negative. The report on the results of the examination of water gave the colonies per cubic centimeter and presence or absence of *Bacillus coli.* Containers for specimens were sent to various distributing agents, selected by the health officers as convenient to practicing physicians.

During 1899 Dr. Fulton called to the attention of the Board the importance of taking release cultures in cases of diphtheria before allowing the child to return to school. An assistant in bacteriology was listed among the six employees of the State Department of Health for this year. In 1900 milk was included among the materials examined for number of bacteria per cubic centimeter, presence of pus cells, and of tubercle bacilli.

Dr. Welch became President of the State Board of Health in January 1900 and stated in the report to the Governor for the next year,

> We have established 57 bacteriological sub-stations in various parts of the counties of Maryland where supplies are kept for the convenience of physicians and health officers in sending us specimens. During the present year, the amount of work done in the bacteriological laboratory was greatly increased (doubled), showing a rapidly growing demand for the aid which we furnish.

On May 1, 1907 Dr. Fulton, who had been Secretary of the Board of since September 17, 1896, resigned to become Secretary-General of the International Congress on Tuberculosis and later to become Secretary-General of the International Congress on Hygiene and Demography. He returned to Maryland in 1913 and was reappointed Secretary, and later, Director of the State Department of Health.

Dr. Marshall Langton Price succeeded Fulton and served as Secretary of the Board until his death in 1913. Dr. Price, in his first report to the Governor, stated that the original appropriation of $2,500 for bacteriological work had not been increased and that the only way in which they were able to continue the laboratory had been by a joint arrangement with the Baltimore City Department of Health. In 1908, for the first time, food examined included oysters and clams. In his report Dr. Stokes, the bacteriologist, stated: "The oyster beds and the oysters from the Chesapeake Bay and its tributaries should be examined and sanitary surveys made of its surroundings."

The number of persons employed by the state for bacteriological work was increased from two in 1909, including the chief bacteriologist, to five in 1910. The General Assembly of 1910 authorized the State Board of Health to establish five bureaus, one of which was the Bureau of Bacteriology. On June 16, 1910 the Secretary, by and with the consent of the State Board of Health, appointed Dr. Stokes the chief of this

bureau. The interest in this aspect of public health was indicated by the appointment of Dr. Willliam W. Ford as a member of the State Board of Health in 1913. At this time the force in the laboratory was increased to seven; in the following year examinations of smears for gonococci were first noted. In 1915 the expenditures of the Bureau of Bacteriology were $9,424.59 and 13, 368 specimens were examined.

During the early part of 1920, the Department of Health established a state laboratory separate from that of Baltimore City, largely as a result of the efforts of Dr. W. W. Ford. From that time Dr. Stokes devoted all of his time to the Baltimore City laboratory. The state laboratory was located at 14 West Saratoga Street, and the staff consisted of R. C. Salter, chief of the Bureau, three assistant bacteriologists, and a clerk. The marked increase in the work of the laboratory to 15,012 specimens examined in a year was stated to be due to the very much larger number of Wasserman tests for the venereal disease clinics, more extensive use of the laboratory by the state insane hospitals and penal institutions, greater interest of the physicians in laboratory work through the activities of the state and county health officers, and special efforts made by the members of the laboratory to improve service to the physicians. The number of examinations in 1921 showed an increase of 36.5 percent over that of 1920. The greatest gains were made in the detection of venereal diseases and the bacteriological examination of water supplies and of foods. In addition to the routine work, special investigations were undertaken, as a result of problems arising in the work of this and other bureaus. These included studies on the efficiency of hypochlorite disinfectants, the determination of the phenol coefficient of "sputosan" and its efficiency as a sputum disinfectant, the use of telluric acid in the isolation of diphtheria bacilli, the viability of tubercle bacilli in the effluent of the sewage disposal plant of the State Tuberculosis Sanatorium, and a comparison of media used in the isolation of the typhoid bacillus from blood.

Dr. Salter was ill during the spring and summer of 1924. On September 15 he was injured in an automobile accident and was confined to the hospital until the middle of December. During his absence Mr. Martin Frobisher, Jr. acted as Chief of the Bureau. Following Salter's death (December 5, 1925) the administrative duties were assumed by Miss Ruth T. Hummiston, and the services of Dr. S. R. Damon of the Johns Hopkins School of Hygiene were secured to assist with the work.

In 1925 there were 52,176 specimens examined; the expenditures of the bureau amounted to $24,865.83. The number of physicians taking advantage of the state laboratory facilities also showed a marked increase.

Standard methods were prescribed for most of the laboratory procedures. Accuracy in diagnosis of specimens was controlled and stimulated by the use of test specimens that were sent out from the central laboratory. During 1924 an important change was made in the manufacture of antityphoid vaccine; a study of the typhoid fever reports showed that less than one case of paratyphoid "A" was reported per year, and that cases of paratyphoid "B" were reported rarely. The laboratory continued to use the Rawling's and Mount strains of B Typhosus but discontinued the inclusion of the paratyphoid vaccines.

Following an unusually large number of cases of typhoid fever during the mid-winter months of 1924-1925 in New York, Washington, and Chicago, apparently caused by eating oysters, the State of Maryland started an intensive sanitary survey of its oyster business.

The laboratory work was divided into two parts: (1) Detection of carriers of typhoid fever who were engaged in handling the shucked stock and (2) Examination of the product itself for signs of fecal pollution. As about 5,000 persons were engaged in handling oysters in the oyster houses, it was not practical to examine stool specimens from so large a group. Specimens of excreta were obtained from all those who gave a history of having had typhoid fever and from those giving a positive Widal reaction. A total of 174 specimens was examined and only one typhoid carrier was found. In the field survey of oyster-producing waters, samples of 1,271 waters and 535 oyster samples were examined at the branch laboratory at Hurlock.

At the close of 1925, the Bureau of Bacteriology consisted of the central laboratory, located in Baltimore City, under the chief of the bureau, and five branch laboratories located in various parts of the state, each under an assistant bacteriologist. The central laboratory in Baltimore performed the routine laboratory examinations for that portion of the western shore lying east of Frederick County, the rabies examinations for the whole state, and all the Wassermann tests except those from Allegany and Garrett counties. It also received all specimens coming from the Eastern Shore territory lying north of Easton. In addition to this, the central laboratory prepared and distributed antityphoid vaccine, maintained administrative control of the branch laboratories, and rendered them such assistance as the preparation of diagnostic sera, the maintenance of stock cultures, and in some instances the preparation of culture media. Such time as was available was devoted to research and the testing of new laboratory methods.

Branch Laboratories The first branch laboratory was started August 15, 1915 in Cumberland, Allegany County, with W. A. Gunther in charge. It was through the efforts of Dr. R. H. Riley, then Deputy State Health Officer of this district, that the laboratory was made possible. He convinced the local and state authorities of the importance of local service to make his work

more effective. To carry out his recommendations, sums of money were appropriated for this purpose by the state, Allegany County, the City of Cumberland, and later Garrett County. This laboratory performed all tests, excluding rabies for Allegany and Garrett counties.

During 1921 the second branch laboratory was established in Hagerstown with Miss Zelda Hartman in charge. All tests were performed except the Wassermann and rabies examinations. This laboratory was financed by the state, Washington County, and the Rockefeller Foundation, but the work performed was for Washington County only.

A third branch laboratory was established in Hurlock, Dorchester County, with C. A. Perry in charge, where all examinations except those for rabies and the Wassermann test were performed. This laboratory was supported entirely by the State Department of Health.

In the same year, a private laboratory under contract with the state was opened in Frederick, Frederick County. Special arrangements were made with Drs. Baer and Cull to make all bacteriological examinations for diphtheria, typhoid fever, and tuberculosis in Frederick County. The purpose was to facilitate emergency work in this county.

Space was granted in the Hygienic Laboratory in Washington, DC for the use of the State Department of Health in 1925. The requisite furniture was supplied by the state, but bacteriologist Miss Hattie Alexander was at liberty to use the supplies of the Hygienic Laboratory free of charge. In return, the bacteriologist devoted all spare time to the service of the Hygienic Laboratory. This branch laboratory performed examinations on specimens from Montgomery, Prince George's, Charles, and St. Mary's Counties.

The establishment of a branch laboratory in every instance caused a large increase in the number of diagnostic examinations from the adjacent territory. Examinations of specimens for tyhoid fever, diphtheria, tuberculosis, syphilis, and gonorrhea constituted the bulk of the diagnostic work. The venereal disease work continued to increase more rapidly than all others mentioned. The division of laboratory service created a problem of administration, in that it tended to isolate the laboratory worker. The Chief of the Bureau kept in close touch with the branch laboratories through personal visits, correspondence, and daily reports from those in charge.

Contributions

A pupil of Cohnheim's, Dr. Welch has been successively professor of pathology at Bellevue Hospital Medical College from 1878 to 1884, at the Johns Hopkins University from 1884-1916, and director of the School of Hygiene and Public Health through 1925. After accepting the invitation to become professor of pathology in the university and pathologist to the Johns Hopkins Hospital, Dr. Welch went to Germany in the fall of 1884, where he attended the first course in bacteriology given in a university and studied the new bacteriology under Koch and Flugge.

In 1884 he gave his first courses in the biological laboratory at the university, and in regard to these Howard says:

> The brighter of the younger and many even of the established physicians during the next 10 to 15 years enrolled themselves in the courses in bacteriology...offered by Welch and his associates in his pathological laboratory. Fortunately, Welch's courses also were opened to undergraduates of the Johns Hopkins University who expected to study medicine. By these means, interest in the fundamental sciences in Baltimore was revived and rekindled. Young men entering medicine had opportunities to pursue them and graduates in medicine were enabled to make up their deficiencies. By 1890, Welch's students composed directly or indirectly the whole medical profession of Baltimore, for there were few so ignorant or so fossilized that they could not absorb something of knowledge so simply diffused and imparted by this clear-headed, impelling master, whose kindly manner reassured the meek and abashed the arrogant.

While associated with the graduate department of the Johns Hopkins University, Welch made important contributions to the bacteriology of infection. He gave probably the first clear-cut definition of infectious diseases in the modern sense when, in the spring of 1890 in his lectures at the Johns Hopkins Hospital, he said: "An infectious disease is any disease caused by the entrance into and multiplication within the body of pathogenic microorganisms." During this early period he noted the presence of staphylococci in the deeper layers of the skin and named the organism *Staphylococcus epidermidis albus*, showing it to be the cause of low-grade infections after surgical operations, particularly in the case of stitch abscesses.

He also published articles on the bacteriology of hog cholera, pneumonia, diphtheria, and typhoid fever, and wrote the chapter on bacteriology for Dennis's *System of Surgery*. Probably his chief contribution was the paper, "Bacillus aerogenes capsulatus Nov. Spec.," by Welch and Nuttall in 1892. The importance of these observations lay not so much in the discovery but in the fact that Welch appreciated the relation of infection from that organism to pathological conditions then ascribed to the entrance of air into the veins called emphysema and now usually called gas gangrene. Subsequently Welch and his pupils published a large number of papers on this organism.

Between 1885-1893, Dr. Welch had a considerable number of graduate students, mostly physicians, who worked on major problems of wound infection and disinfection of the skin. Among these were Dr. W. S. Halsted, later professor of surgery at the University, and Dr. Mary Sherwood, one of the pioneer women physicians of Baltimore, who was interested in methods of hand sterilization. Dr. Bolton investigated the inhibitory action of metals on bacterial growth. Dr. Nuttall, also associated with the department at this time, started to organize a course in hygiene on the basis of Pettenkofer of the Munich School of Hygiene.

Doctors MacCallum and Hastings published a paper on the *Micrococcus zymogenes*, and MacCullum also published one on the *Actinomyces asteroids*.

In Osler's clinic at the Johns Hopkins Hospital much important work was done, such as the studies of malarial fever by W. S. Thayer and others, 1886-1902; the investigation of amebic dysentery by William T. Councilman and Henri A. Lafleur 1890-1891; the finding of the microorganisms in gonorrheal endocarditis and septicemia by W. S. Thayer and George Blumer, 1896; the confirmation of the significance of the meningococcus intracellularis in epidemic cerebrospinal meningitis by Dr. Councilman in 1897; the studies of eosinophilia in trichinosis by Thayer and Thomas R. Brown, 1897-1898; and the study of malarial parasites by William G. MacCallum and Eugene L. Opie in 1897-1898. The first observation in America of *Amoeba coli* was made by Dr. Osler at the Johns Hopkins Hospital in 1890; later that year Dr. Lafleur reported a second case in which the organism was found and the first demonstration made to a medical society.

As early as 1885 Drs. Councilman and Abbott, at Bayview Hospital, confirmed Lavaran's studies on the malarial parasite and taught the resident physicians at that institution the methods of blood examination relating to diagnosis and treatment. Howard suggested that although Baltimore physicians were well grounded in the various aspects of this disease, it was not until the opening of the medical dispensary and wards of the Johns Hopkins Hospital under Dr. Osler that critical routine studies of the different forms of the malarial parasites in relation to the various types of malarial fever were regularly practiced in this city. A certain looseness in diagnosis not only between the various forms of this disease but also between them and wound infections, typhoid fever and other diseases on the part of the general practitioner began to be rectified. An important role in correcting the confusion between malaria and typhoid fever and tuberculosis was played by the bacteriological laboratory after 1900.

The work of Booker, who found streptococci in intestinal lesions in 1895 and that of Duval and Bassett in 1902, and later Howland and his co-workers, with *B. dysenteriae*, have been of far-reaching importance in the study of gastroenteritis. Booker was responsible for introducing the practice of pasteurization of milk for babies about 1892, and much of the advance in the control of cholera infantum in Baltimore has been based on his pioneer work.

The Yellow Fever Commission of 1900 was appointed and instructed by Surgeon General George M. Sternberg, who had conducted bacteriological investigations in the Physiology Building of Johns Hopkins University some years previously. Dr. Sternberg had isolated the diplococcus of pneumonia simultaneously with Pasteur, published valuable treatises on bacteriology and disinfection, and through the localization of "Bacillus X" in yellow fever as a negative find, cleared the ground for later investigators. He continued his studies of yellow fever and, during the occupation of Cuba by the United States Army, appointed the Commission that solved the problem of the transmission of yellow fever by the stegomyia mosquito. Walter Reed, who was at the head of the Commission; Jesse W. Lazear, who lost his life in the experimental study of yellow fever; and James Carroll, a member of the Commission, who submitted to an inoculation and came through successfully; were all former students of Dr. Welch. The program for the work of the Commission was outlined in Baltimore and carried out with advice from Dr. Welch.

The establishment of the Pasteur Institute in connection with the College of Physicians and Surgeons and the City Hospital of Baltimore was due largely to the efforts of Dr. N. G. Keirle, professor of pathology, assisted by Dr. John Ruhrah. A fund to inaugurate the work was raised by public subscription, as the result of a movement on the part of *The Sun* paper. Dr. Rurah, then resident physician at the City Hospital, spent two months at the Pasteur Institute in Paris, where the treatment originated, and on his return was made physician-in-charge of the Baltimore Institute. The first patient was received April 15, 1897.

Dr. Keirle was director of the Institute. Having become familiar with the new bacteriological methods, largely through his personal study and efforts, he made extensive investigations of pigeon and chicken diphtheria, of rabbit septicaemia, and of rabies in dogs, mice, rabbits, and other animals. He repeated the fundamental experiments of Pasteur on rabies and secured a fixed virus by successive passages through rabbits. In the introduction to *Studies in Rabies* (the collected writings of Keirle) Dr. Welch remarks that as head of the Institute, Keirle brought its work to the highest standard of efficiency.

Dr. William Royal Stokes, an active figure in both the fields of teaching and public health work, was graduated from the University of Maryland, School of Medicine in 1891 and did graduate work at the Johns Hopkins University and under Dr. Councilman at Harvard. After his return to Baltimore he was an instructor at Johns Hopkins, lecturer at the Baltimore Medical College, associate professor of pathology and bacteriology at the University of Maryland, and professor of these subjects at the College of Physicians and Surgeons until the merger in 1916, when he became a professor at the University of Maryland. He became director of the Bureau of Bacteriology of the City Health Department in 1896 and was in charge of all the work when the state and city bacteriological laboratories were combined during the period from 1898 through 1920.

Dr. Stokes conducted extensive surveys on water and milk pollution and was instrumental in effcting improvements in the city's water, sewers, and milk. His bacteriological findings concerning the water supply were confirmed by Dr. W. W. Ford, whose studies dealing with the Gunpowder River supply extended from 1906 through 1910. In addition to the studies of

milk and water, Stokes published numerous articles on typhoid fever, diphtheria, tuberculosis, and various phases of laboratory technique.

This research and that of the bacteriological laboratory of the Maryland State Department of Health frequently were conducted in conjunction with the Johns Hopkins University and the University of Maryland. Drs. Stokes, Hachtel, Fulton, and Stoner were frequent investigators and authors in this field.

Lack of space prevents a more detailed discussion of the advances in bacteriology made within the State of Maryland. The collected papers of Dr. Welch; the reports, bulletins, and journals of the Johns Hopkins Hospital and the School of Hygiene and Public Health, and of the University of Maryland; and the annual reports of the Departments of Health of Baltimore City and the State of Maryland are rich in such material. One striking thing about this review of the growth of the science in Maryland is the continued evidence of progress in all fields. The teaching, the diagnostic work, and the research continue to show vigorous development.

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Chronological Highlights

1880 Sternberg opens bacteriological laboratory at The Johns Hopkins University.

1880-81 Sternberg discovers and demonstrates *Diplococcus pneumonia*.

1884 Welch becomes professor of pathology at The Johns Hopkins University and pathologist to the hospital.

1885 Councilman and Abbott first American observers to discover Laveran organisms of malaria in red corpuscles of the blood.

1887 First systematic course in bacteriology in Maryland given by Welch.

1889 Johns Hopkins Hospital opened.

1890 First observation in America of *Amoeba coli* by Osler at Johns Hopkins Hospital.

1890-91 Investigation of amebic dysentery by Councilman and Lafleur.

1892 Discovery of gas bacillus (*Bacillus aerogenes capsulatus*) by Welch and Nuttall.

1893 Johns Hopkins Medical School opened.

1893-94 Course in bacteriology introduced at University of Maryland, School of Medicine.

1895 Bacteriology first taught at College and Experiment Station of the University of Maryland.
Bacillus pyogenes filiformis descried by Flexner.
Opening of clinical laboratory at University Hospital.

1896 Finding of microorganisms in gonorrheal endocarditis and septicemia by Thayer and Blumer.
Municipal bacteriological laboratory of Baltimore City opened with Stokes in charge.
Opening of clinical laboratory at Johns Hopkins Hospital.

1896-97 Course in bacteriology inaugurated at College of Physicians and Surgeons.

1897 Private diagnostic laboratory opened by Simon.
Confirmation of significance of *Meningococcus intracellularis* in epidemic cerebrospinal meningitis by Councilman.
Department for treatment of rabies by Pasteur method opened at City Hospital.

1897-98 Studies of eosinophilia in trichinosis by Thayer and Brown
Demonstration of sexual conjugation of parasite of avian malaria by MacCallum.

1898 Opening of clinical laboratory, City (Mercy) Hospital. Establishment of state bacteriological laboratory, in conjunction with work of Baltimore City. Welch appointed member of State Board of Health.

1900 Yellow Fever Commission appointed by Sternberg and work planned in Baltimore.

1913 Ford appointed member of State Board of Health.

1915 First branch laboratory of State Department of Health established at Cumberland.

1917 School of Hygiene and Public Health established by Johns Hopkins University with Welch as director.

1920 Separate central laboratory opened by State Department of Health with Salter in charge.

1921 Branch laboratory at Hagerstown.

1923 Branch laboratories opened at Hurlock and Frederick.

1925 Branch laboratory at Hygienic Laboratory in Washington.

Raymond M. Atkins MD
Med Chi's President 1989-1990

Chief of Surgery at Homewood Hospital, Dr. Atkins continues private practice and serves as Surgeon for the 97th Army Reserve Command.

As Med Chi's President, Raymond M. Atkins MD assumes office on April 14th confronting many pressing health issues that face Maryland physicians. Long an active leader in organized medicine, Dr. Atkins is familiar with the issues and is well prepared to deal with them. He is a former President and Secretary of the Baltimore City Medical Society and has served on the Executive Committee of the Medical and Chirurgical Faculty of Maryland since 1986. Dr. Atkins feels that anyone who is honored with the position of president of Med Chi, "has worked up to a leadership role and it is incumbent on him to perform in that mode. A year is not a long time to get things going. If the groundwork has not been done by the time the President takes office, anything he tries to put in position probably will not happen. It is generally a matter of seeing some of things one works toward come to fruition and being in the position to help it happen." Some of the areas in which Dr. Atkins plans to focus his energies while president are highlighted here.

Leadership

Dr. Atkins' primary goal as president is to strengthen and increase the leadership of the Faculty. "If you liken it to somebody learning to ride a bicycle, there's usually a lot of falling down and being held from behind until you get your wheels going. I see Med Chi in a similar role at the moment, in the sense that Jack Sargeant, who was a very strong influence in the organization, left it with only a small number of support-role personnel (physician or staff). We who have come after his leadership are obliged to feel our way in reorganizing the medical society, redefining leadership, and making it a strong and workable organization. That is not as simple as it sounds because there are political self-interests to be served in so doing. It is difficult, but we are learning to ride our bicycles and we are getting better at it. My intent is that this will be a very smooth, tightly-run organization in the next few years."

Membership

Dr. Atkins maintains that one way to strengthen the faculty is to increase membership. Although Med Chi currently represents approximately 7,500 physician members throughout the state,

Born in Marlinton, West Virginia, Dr. Atkins moved to Baltimore with his family in 1937. "When I came to Baltimore I might as well have been from a foreign country," Atkins said. "We moved into an ethnic neighborhood, and I really spoke a different language. Although I was a top student as a youngster in the fifth grade, I was untutored in the ways of the City. It was a foreign world. My new friends would ask, 'Are you gentile?' I'd say 'Gee, I don't know, I'll go home and ask my mother.' I still have some wonderful old friends that I grew up with in that community."

Dr. Atkins attended City College and graduated in 1945. "The United States was fighting in World War II when my class graduated, and we all were going off to military service. I went into the Navy Reserve and was still in flight training in Texas when the War was over. I was a little disappointed, because I had trained so long. I felt all dressed up with nowhere to go."

While in the Naval Reserve, Dr. Atkins accumulated two years of college credits in only nine months. When the war ended, he was accepted at the University of Maryland where he entered Medical School after only one year at the University. "That was both a blessing and a horror because I hadn't had all the chemistries that most of the guys had. For instance, I had never seen the physical chemistry book, and when I got to Medical School they reviewed it in two weeks. It was like going to Afghanistan, I didn't know the language! I thought I would die, but somehow I managed to get through biochemistry."

Dr. Atkins interned at the U.S. Public Health Service Hospital, a good learning institution, which also allowed him to support his wife Julia and their child. Following his internship he was given the choice of treating lepers in Louisiana, practicing on an Indian Reservation, or being a physician on a weather ship in the North Atlantic. He politely refused these positions, and instead opened a family practice in Chestertown. "It was wonderful," he recalls. "I was busy and with good people, and it felt as though I was doing something really worthwhile. In those days one did everything: delivered babies, treated heart attacks...the whole bit. But because I had to keep referring all the 'good' cases to someone else, I decided to get some surgical training."

Dr. Atkins returned to Baltimore and, with the aid of his old professor, he attained a surgical residency position at Church Home Hospital. Four years later he entered into practice with Drs. Owings, Chambers, and Finney. "They were all very high quality people and very kind people; I've been in practice ever since." Dr. Atkins worked in Church Home and was Chief of Staff there for six years. In 1985, he was offered a position at North Charles Hospital (now Homewood Hospital) where he is currently Chief of Surgery. In addition to his hospital duties, Dr. Atkins continues private practice, maintains an active role in the Army Reserve, and serves as Surgeon for the 97th Army Reserve Command. He is also chairman of the board of a 1,400 physician member preferred provider organization.

Dr. Atkins and his wife have four children and eight grandchildren. "They're all fine children," remarks Atkins. "I'm very pleased with them. One is an attorney. My oldest daughter had a marvelous education; I thought she would really produce, and she did: six children! Her husband is in infertility and reproduction. My youngest son is a robotics engineer, and my youngest daughter is very happy with a master's degree in developmental banking. It's a pretty straightforward all-American family." Dr. Atkins and his wife own and renovate property in Baltimore and also own and run a cattle breeding farm in West Virginia.



The Atkins family

there are still many physicians in Maryland who are not represented. "The universities embrace a huge number of physicians who are strangers to the state and who do not become involved because they are more attuned to national organizations. I'm hoping we can encourage many of these very bright and very articulate people to participate; they would add a great dimension to the Faculty." Dr. Atkins is convinced that many other physician groups around the state, such as those in military installations, would welcome a place to interact and efforts should be made to include them in Med Chi's membership. "We do not welcome them and we should," remarks Atkins. "If we could recruit them in some capacity to be part of our experience, they could add a great deal from their areas."

The recruitment of new physicians to Med Chi is only part of Dr. Atkins' membership concerns; he also demonstrates a profound interest in the needs of current members. "We have been working toward providing more services for physicians, but we have to be cautious about overriding the component societies' authority as well as that of the national organizations physicians belong to. We offer insurance, referral services, and peer review, for example. These resources are among the advantages of belonging to an organization that's large enough and strong enough to truly represent the interests of the physician."

Physicians and the Legislature

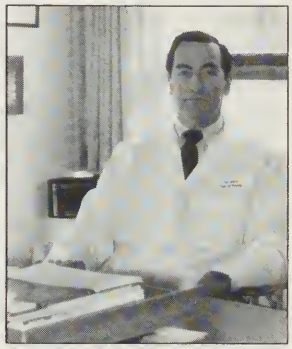
"One of the prime roles of Med Chi," says Dr. Atkins, "is representing the interests of physicians in the legislature. Perhaps even more important are our lobbying efforts. In a complex state government we need to speak in a reasonable and a strong voice to support the interests of organized medicine to the benefit of both physicians and the citizens they serve, a crucial combination in today's world."

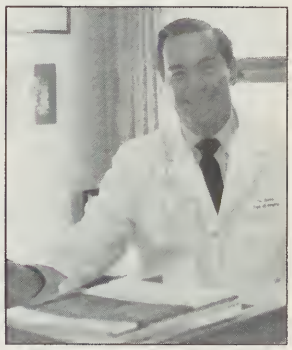
Dr. Atkins believes that Med Chi must interact with other health-related organizations in order to protect the interests of physicians. "Med Chi should maintain relations with the Maryland Hospital Association in order to promote their role in medical staff organization and we should sustain our strong representation with the Secretary of Health, whose decisions have an enormous influence and impact on us."

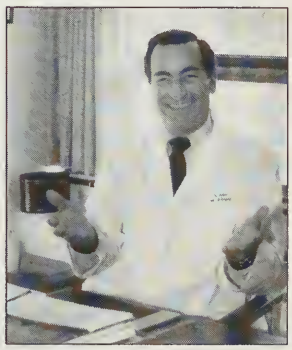
Major Issues Facing Physicians

During the AMA's Interim meeting in Dallas last December, Dr. Atkins observed that some of the issues of major concern to the AMA, such as the Resource-Based Relative Value Scale (RBRVS), were not presently among the biggest issues facing Maryland physicians. In his experience, Maryland physicians are concerned with some of the following priorities.

Tort Reform Although this past year has brought about reductions in liability insurance, rates are still phenomenally high relative to physicians' expenses and incomes. Dr. Atkins is concerned that insurance rates coupled with the "defensive medicine" physicians must practice to avoid legal suits will eventually lead to a physician shortage. "I don't know any physician who objects to efforts aimed at assuring good, quality care," says Atkins, "but the methods have become terribly onerous in terms of paperwork, review committees, and groups of organizations in the hospitals. This very heavy overview and its impact on malpractice insurance rates is driving a lot of physicians out of solo practices into either group practices or early retirement. More importantly, this also is preventing young people from going into medicine. Fifteen years ago we had 25 people standing in line for each position in medical school; now there are 1.4. Of great concern to all of us, these issues are influencing the practice of medicine now and will have even more dominion in future years."







Medical Staff Shortages Of major interest to Dr. Atkins is the growing crisis among hospitals. He noted that every five days a hospital in this country closes and that many hospitals must re-evaluate their financial structure in order to remain in operation. "I think we are in for a shake-up in the health care delivery industry in terms of hospitals going through financial crises," Dr. Atkins commented.

One factor that contributes to this crisis is the shortage of nurses and technicians. Dr. Atkins projects that "as we lose our trained people and their expertise, we will go through some real 'white water' in the next few years. Even so, I am still optimistic. People will continue to get sick, and somebody has to treat them; there will always be a need for physicians. Some doctors (or others in health care) will not be able to change; others who are more flexible and capable of changing to match the needs of the situation will survive well in the sense of managing to continue respectable, quality practices." Dr. Atkins added that although there are fewer physicians coming out of medical school, they are extremely bright and well

trained. "Residents, even first year residents, have so much more knowledge at their fingertips than we had," states Atkins, "that it is a little scary, but also heartening. The technology itself has advanced, and they have had to keep up with its progress. The hope of the future for medicine is in the developing technology. We will develop centers of expertise where patients go for specialized care, because every med-surg hospital in the state cannot do everything. For example, it is appropriate that people who need heart transplants go to an area that has the greatest expertise, trained personnel, and specialized equipment for cardiac care. Such specialty centers will come about out of financial necessity, but they will offer great advantages to the patient in the long run."

Future of Medicine

According to Dr. Atkins, the new federal Republican administration will have a significant impact on the health care industry. He explains that the medical community is already learning to cope with government cutbacks. "Institutions are learning to live with the fact there is no more throwaway; efficiency is absolutely necessary to survive as a hospital. Maybe this is not unhealthy. Traditionally hospital administrators have functioned in their own isolated world. Medical staffs functioned almost in opposition. Now, out of economic necessity, they are being forced to work as a group. And it is appropriate that hospital administrators, doctors, and nurses sit together to plan future directions. If they don't, then they are dead in their organization. Out of everything bad perhaps there comes some good."

Moral Direction

Dr. Atkins is also interested in developing the moral direction of faculty members. He states that physicians have a great moral responsibility to their patients and to the profession. Many young physicians, Dr. Atkins regards as having been brought through the system with a 9-to-5 job mentality. Older physicians, however, retain a "24-hours-a-day and I'll do the best I can" attitude; they care about their patients and try to respond to them the best they can. Dr. Atkins hopes that all physicians will strive to apply their highest morality and dedication to patient care. "We need that sort of strength or protection of the moral fiber upon which our profession is based."

Med Chi's Future

When asked about Med Chi's future, Dr. Atkins reiterated his goals and expressed his wish for the development of a strong unified group of physicians. However, he warned that political factions make it difficult for physicians to act as a unified force and stressed that physicians must learn to work together for the good of the Faculty. "The people who rise in organizations are those who have been willing to work and to dedicate their time and effort," commented Atkins. "Unfortunately, some of our best and brightest are not contributing...the problem is this political milieu with people who have a lot of different interests to serve. Nevertheless, I have observed over the years, whether it's a chief of service, a chief of staff, or an officer in an organization, that most individuals learn to rise above their personal interests and become statesmen. They become capable of acquiring an overview and of acting on behalf of the organization. What we need is simply a solid, smoothly run organization, competently staffed, in a sound fiscal position, and a unified membership able to count on support from their organization. Then we can put on the frills. I don't have any false sense about it all happening in a year's time, but we can work at it." ■

* * * IMPORTANT * * *

MARYLAND LAW REGARDING NOTICE OF PARTICIPATION IN THE MEDICARE PROGRAM

On July 1, 1985 a law was passed in Maryland requiring physicians to post a notice in their offices regarding their participation status in the Medicare program. It has been brought to our attention that some physicians are not complying with this law. Therefore, Med-Chi has developed the signs on the next 3 pages for your use. The appropriate sign should be detached and posted in your office.

The law, which is outlined in Section 14-705 of the Health Occupations Article of the Annotated Code of Maryland, states:

> If a physician is engaged in the private practice of medicine in this State, the physician shall display a notice written in English that is plainly visible to patients in the office of the physician concerning whether the physician:
> (1) Is a participating physician under the Medicare program and, therefore, accepts assignment for all Medicare claims;
> (2) Accepts Medicare assignment on a case-by-case basis; or
> (3) Does not accept Medicare assignment in any case.
>
> This requirement DOES NOT apply to a physician or group of physicians who:
> (1) Have exclusive contracts with a health maintenance organization;
> (2) Treat only the patients of the health maintenance organization; and
> (3) Agree to accept full assignment for covered services rendered.
>
> **A PERSON WHO VIOLATES ANY PROVISION OF THIS LAW IS GUILTY OF A MISDEMEANOR AND ON CONVICTION IS SUBJECT TO A FINE NOT TO EXCEED $5,000 OR IMPRISONMENT NOT EXCEEDING 5 YEARS OR BOTH.**

If you have any questions about this matter, contact the Med-Chi Government Relations Department at 539-0872 or 1-800-492-1056.

For My Medicare Patients

I PARTICIPATE IN THE MEDICARE PROGRAM
AND
ACCEPT ASSIGNMENT FOR ALL MEDICARE CLAIMS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I ACCEPT MEDICARE ASSIGNMENT ON A CASE-BY-CASE BASIS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I DO NOT ACCEPT MEDICARE ASSIGNMENT IN ANY CASE

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

The Golden Era of Microbiology: People and Events of the 1880s

Theodore E. Woodward MD, MACP

Dr. Woodward is Professor of Medicine Emeritus, University of Maryland School of Medicine. *This material was presented in April 1988 as a lecture on the History of Medicine during the 1987-1988 Alpha Omega Alpha Series.*

While it was well known that microorganisms were present in diseased tissues as well as practically everywhere else in nature, many physicians did not consider the presence of bacteria the cause but merely an accidental accompaniment of disease.

Medical historians have placed the beginnings of medical bacteriology (or the "Golden Era" as William Welch called it), in the year 1876. It is not possible to describe the Golden Era of Microbiology without mentioning some of the important beliefs and events that preceded this dramatic era. It was well known that microorganisms were present in diseased tissues, but they were also known to occur practically everywhere in nature. One of the major concerns and points of controversy was simply "Why should we worry about microorganisms since they are around us all the time, and are present, in particular, in healthy persons without causing disease?"

In the seventeenth century the Dutch lens maker, Antonj van Leeuwenhoek perfected a method of grinding lenses from which he made a workable microscope. He spent most of his mature life describing small animals, "animalcules," in various types of fluids. Because of his remarkable observations and the descriptions of his findings, he was made a Fellow of the Royal Society of London and the Academie des Sciences of Paris.

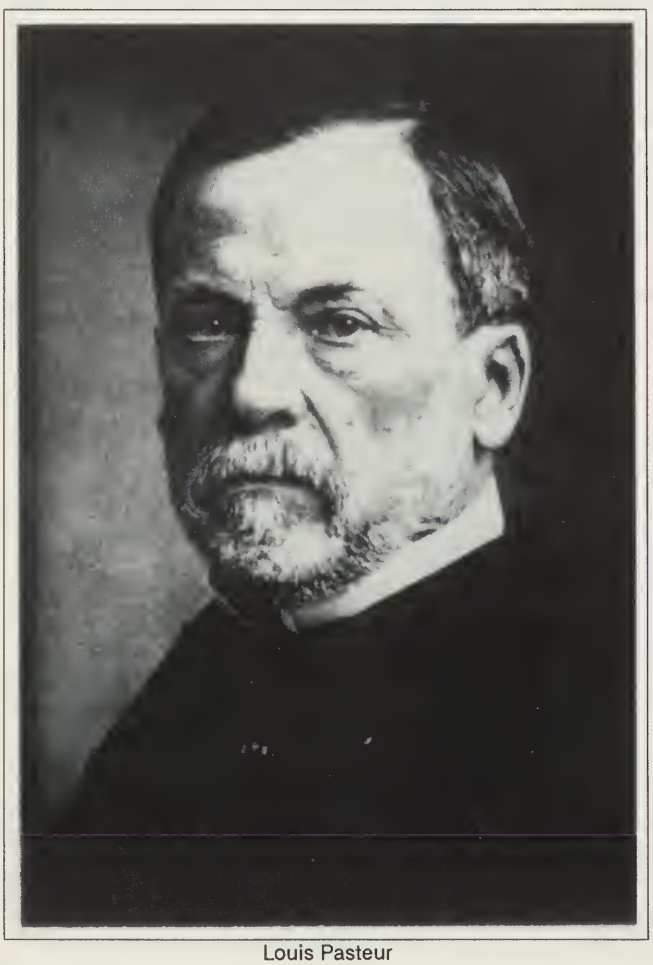
It was Ignaz Semmelweis who, in 1847 (approximately 30 years before Pasteur and Koch discovered that bacteria caused disease) concluded that fatal fevers after childbirth were caused by the contaminated hands of doctors. It was for this reason he advocated the use of disinfectant in scrubbing the hands (chlorinated lime solution) before examining each patient. This practice significantly lowered the obstetrical mortality rate. Yet many physicians considered the presence of bacteria was not the cause of disease but merely an accidental accompaniment of disease.

In 1876 Robert Koch in Germany and Louis Pasteur in France working simultaneously (and completely independently) set about to discover the cause of anthrax. The published papers of Koch and Pasteur left little doubt that the cause of anthrax was the anthrax bacillus. The anthrax bacillus had been observed long before 1877: Davaine, in 1850, first observed it in the blood of infected animals and claimed it was the cause of anthrax. In 1881,

Pasteur responded to a serious problem of anthrax in the French livestock industry and developed his attenuated spore vaccine.

It was well known that bacteria occurred commonly in wound infections, and during the Franco-Prussian War, there were many reports in German and French literature that bacteria were to be found in wounds. Other examples illustrated the fact that microorganisms might be the cause of disease. In 1836, the Italian, Agustino Bassi, showed that a certain disease of silkworms was caused by fungi, and in 1866 to 1868, Pasteur himself showed beyond a shadow of a doubt that two other diseases of silkworms were due one, to a protozoan and the other to bacteria. These experimental studies of silkworm diseases, anthrax, and wound infections provided substantial background that microorganisms are present in the course of diseases.

Observers were unaware of factors of the physicochemical enviroment of the host that permitted the microorganism to multiply or to fail to grow.



Louis Pasteur

For years, the early observers were unaware of the fact that there were virulent bacteria that caused disease and avirulent bacteria that did not. They also were unaware of the factors of the physicochemical environment of the host that permitted the microorganism to multiply or fail to grow. In a rather remarkable way Koch and Pasteur were successful in identifying some of the factors responsible for allowing bacteria to cause disease.

In 1880, Pasteur demonstrated in a very dramatic fashion how host factors were responsible for pathogenesis. The experiment illustrates the type of simple clarity that characterized practically all this great scientist's contributions. He had the idea that the reason the chicken did not suffer from anthrax was that its body temperature was higher than that of other animals. In illustrating the germ theory of disease, Pasteur once arrived at the Academy of Medicine in Paris with three cages containing chickens; a white one, a gray one, and a black one. The white one was dead, the gray and black chickens were alive and well. All chickens had been injected with anthrax bacilli. The white chicken, after inoculation, was immersed for a half day in a cold bath and was dead. The gray chicken, also injected, was not put in a cold bath but held at room temperature and did not develop illness. The black chicken, infected with anthrax bacilli, was initially placed in a cold bath, taken out and wrapped in wool blankets and recovered. This indicated that temperature of the host alters susceptibility.

Another remarkable example of this phenomenon relates to the pneumococcus, most strains of which will not infect the rabbit because of its normal temperature of about 102° F. Dr. John Enders showed much later that only very pathogenic strains of pneumococci, such as type III, caused infection in rabbits and that most pneumococci are not pathogenic for this animal. Hence Pasteur, Koch, and others were very wise in their observations that the microbial parasite must be adjusted delicately to the physicochemical environment of the host in order to establish disease.

Tuberculosis

Koch's earlier studies founded the discipline of bacteriology, that is (a) identification of organisms by smears through drying, heating, staining, and counterstaining, (b) the value of photographing bacteria, (c) plate isolation techniques useful for cultivation and methods of identifying pure bacterial colonies on gelatin and serum, and (d) the formulation of postulates (now known as Koch's postulates) to prove etiology of illness by pathogenic microorganisms. In formulating his postulates, Koch used anthrax as a model; his work on tuberculosis came a little later.

Koch's remarkable paper of 1882, on the etiology of tuberculosis, is the classic example of design in experimentation and the impact of experimental pathology in medicine. (Remember Villemin's series of studies in 1865 revealed that infected lung tissue and

sputum from tuberculous patients caused infection in rabbits and guinea pigs with the production of tubercles.) Koch reported the isolation and demonstration of tubercle bacilli in human tissues and sputum. He pointed out the importance of the aerosol or respiratory route of infection and insisted that tuberculosis was a contagious disease from person to person and that dried sputum can be infective. He described a simple diagnostic method of staining sputum to identify the tubercle bacillus. One of the by-products of his work was the identification of tuberculin.

Robert Koch was not always correct; he insisted that human and bovine tubercle bacilli were the same. It remained for Theobald Smith, one of the greatest American biologists, to prove Koch wrong. It was Smith who clarified the differences between these two strains, and his work led to the identification in cattle of "positive reactors" and their eventual examination. This public health program greatly diminished the incidence of bovine tuberculosis in America decades before the European countries adopted this principle. Although Koch discovered tuberculin, he doggedly insisted that this fraction of the tubercle bacillus was therapeutic for humans. For several years, Koch kept his "magic bullet" a secret, and his error in clinical judgment misled physicians in many countries for several years.

Diphtheria

During this exciting period of the 1880s, repeated new biological discoveries shaped the future direction and posture of medical therapy and preventive medicine. In 1883, Edwin Klebs first stained bacteria derived from membranes of diphtheria patients and associated them as a cause of the virulent disease. A year later, F.A.J. Löffler cultivated this organism on artificial media and identified it also in the oral pharynx of asymptomatic carriers.

P.P.E. Roux and A.E.J. Yersin, working in Pasteur's laboratory in 1884, showed that the local tissue damage in diphtheria was caused by a heat-stable toxin that also circulated widely to cause further alteration and toxic changes. E.A. Von Behring's work in 1890 showed that serum from animals given diphtheria toxin previously not only protected against the disease but also was effective in treatment. These studies set the stage for purification techniques and the development of toxiods, and established other immunologic principles.

Tetanus

The early story of the prevention of tetanus parallels the diphtheria successes. Lockjaw was known to the ancients. One of Hippocrates's aphorisms was "such persons as are seized with tetanus die within four days, or if they pass these they recover."

In 1884, Nicolaier successfully transferred anthrax infection from one animal to another. S. Kitasato, of Japan, isolated the anthrax bacillus from purulent exudates in 1886 and reported the presence of spore and vegetative forms as well as nonpathogenic and noninvasive types of the bacillus. He showed that illness was caused by the vegetative form that released the toxin responsible for the subsequent disease process. The toxin was shown to cause local tetanus and systemic manifestations. Kitasoto also showed that chemicals detoxified the toxin that retained its antigenicity and produced an anatoxin (toxoid) when administered. Behring and Kitasoto collaborated in 1890 to characterize the tetanus toxin, to define the toxic unit, and also to better describe the antitoxic immunity in tetanus and diphtheria.[1]

Thus, in a short five years, fundamental features of diphtheria and tetanus were explained, and the stage was set for development of some of the most effective preventive biological vaccines now available.

Pneumonia

Laennec described pneumonia in simple,vivid language; enumerated three stages of engorgement, hepatization, and purulent infiltration (resolution) with the ausculatory signs of each; and gave a brilliant discussion of the symptoms and clinical course.[2]

It is impossible to assign direct priority of discovery of the pneumococcus as a cause of pneumonia to any one person. In 1875 Klebs reviewed the evidence in favor of lobar pneumonia as an infection. In 1880-1881 K. J. Eberth identified cocci in the lungs and meninges of a fatal case of pneumonia complicated by meningitis. Pasteur, in 1881, noted lance-shaped diplococci in the blood of rabbits previously inoculated with mucous from the oral pharynx of fatal cases. C. Sternberg, following Pasteur found that pneumococci in his own sputum were fatal to rabbits within 48 hours after subcutaneous injection. C. F. Friedlander published the first article of bacteriologic significance based on findings from stained sections of postmortem material from eight cases of lobar pneumonia. Lance-shaped pneumococci were found in tremendous numbers at the stage of red hepatization.[3] In a later study (1883) Freidlander and his co-workers identified that diplococci were encapsulated and grew the organisms in pure culture on Koch's gelatin medium.

Cholera

Robert Koch seems to dominate the early 1880s. The fifth world endemic of Asiatic cholera reached the United States, South America, Africa, and eastern Asia around this time. Koch studied the rice water stools of cholera patients in Egypt and Calcutta and, in 1883, identified the cholera vibrio. While examining a hanging drop of rice water stool, he described these organisms as resembling "swarming gnats on a Sunday evening."

Rabies

Equal credit for discovery during this era is due Louis Pasteur. Rabies was known to the ancients. After many unsuccessful attempts to transmit this "virus," Pasteur was successful in transmitting the causative agent to rabbits by injection of central nervous system tissue and spinal fluid derived from infected dogs. The initial attempt to transmit the agent with saliva was unsuccessful.[4] Within five years, the well-known panorama unfolded. This great man and his group showed the differences between the "furious" and "dumb" type of the virus and demonstrated that an animal recovered from the early symptoms was immune to later inoculation of virulent material. Rabies was produced by intracerebral inoculation. Pasteur then came on the technique of drying the infected spinal cord of the rabbit and giving small injections consisting of reconstituted dried rabbit cord and increasing the dose day-by-day.

The first patient on whom Pasteur used the new type of vaccine was Joseph Meister, a boy who had been bitten 14 times on the hand by a rabid dog. Treatment did not begin until 60 hours after the bites. Thirteen successive inoculations with rabbit cords of increasing virulence were given in the skin fold of the hypochondrium. The little boy never developed rabies. In his progress report, Pasteur recorded that over 700 patients had been treated including 30 Russians bitten by rabid wolves. Three of the wolf-bite group died, which Pasteur attributed to the greater virulence of the wolf bite compared to the dog bite.[5,6]

These milestone experiments elucidated many fundamental biological principles, not the least of which was the demonstration of change in virulence and attenuation of a virus even before viruses were clarified as microbiologic agents. Rabies is accompanied by a long incubation period after the inoculating animal bite. Hence, Pasteur surmised that immunity could be produced with a vaccine before the disease occured.

Typhoid Fever

Another series of exciting events occurred in the mid-1880s. Direct attacks were aimed at clarifying the enigma of typhoid fever. During the nineteenth century, typhoid fever and typhus fever were regarded by most as one disease with certain variations in the clinical manifestations. In 1836 W. Gerhard, a Philadelphian, for the first time distinguished between typhoid and typhus based on his concise clinical and pathological findings of six cases.[7] Much later, in 1880, Eberth described a bacterial rod and spotlike bodies in splenic tissue and mesenteric nodes of typhoid patients.[8] In 1884 Gaffky confirmed Eberth's findings with his precise bacteriologic clinical studies.[9] In 1885, Pfeiffer reported the first isolate of typhoid bacilli from stool specimens.[10] In quick order, from 1895 to 1896, Pfeiffer and Kolle[11] and Gruber and Durham[12] showed that the serum of typhoid convalescents and from animals infected with the bacillus protected other animals against lethal doses of the typhoid germ and that the protective body in the convalescent sera caused bacilli to stick together, "agglutinate." Widal reported his agglutination test in 1896.[13]

A particularly important contribution involving another gram negative infection was made by David Bruce while he was serving as a British medical officer on the Island of Malta in 1886. He reported the isolation of a micrococcus in splenic tissues and blood of British soldiers who died of a mysterious disease characterized by sweating, toxemia, and undulating febrile pattern and other manifestations. He called the organism *Micrococcus melitensis*. In 1887 B. Bang, a Danish veterinarian, reported isolating a rod-shaped organism from the placental tissues of aborting cows (Br. abortus). An authoritative monograph on undulant fever was published in 1897 by Surgeon M. Louis Hughes of Her Majesty's Forces. A serum agglutination reaction was reported in 1897 by Almoth E. Wright, a test that distinguished the disease, now called brucellosis, from typhoid fever.

Other Discoveries

A few additional microbial firsts marking this important decade include the report of A. Weil (1886) that identified four patients in Heidelberg, Germany with hemorrhagic jaundice, hemorrhage, conjunctival injection, and renal failure. They were classified as "catarrhal jaundice" at the time. Earlier (1880), D. Jean Larry (a French medical officer working with the Napoleonic armies in Cairo and the Nile Valley), noted an illness characterized by jaundice, hemorrhage, conjunctival infection, and renal failure. It was not until 1915 that Inada working in Kyushu, Japan isolated from similar patients a spirochete called *Spirocheta icterohemmorhagicae*. A year later, Hideyo Noguchi, a bacteriologist with the Rockefeller Institute, classified various spirochetes and designated them as the genus *Leptospira*.

In this same period, in 1879, A. L. S. Neisser was the first to identify the microorganism that causes gonorrhea. Despite the fact that gonococcal infections were described in early Chinese writings, in the Book of Leviticus, and the writings of Hippocrates and Galen, discovery of its cause came centuries later. In 1885 Bumm was the first to successfully cultivate the gonococcus *in vitro*. In 1881 Newberry A. S. Keyser, while a student at the University of Maryland School of Medicine, published a convincing paper confirming Neisser's observation that the gonococcus caused gonorrhea. This preceded William Welch's studies on the subject.

During a major outbreak of influenza in Europe from 1889 to 1892, Emil Pfeiffer identified an organism, *Hemophilus influenza*, obtained from the sputum of patients, which he caimed to be the cause of influenza. The influenza viruses were not specifically identified until much later in the twentieth century,

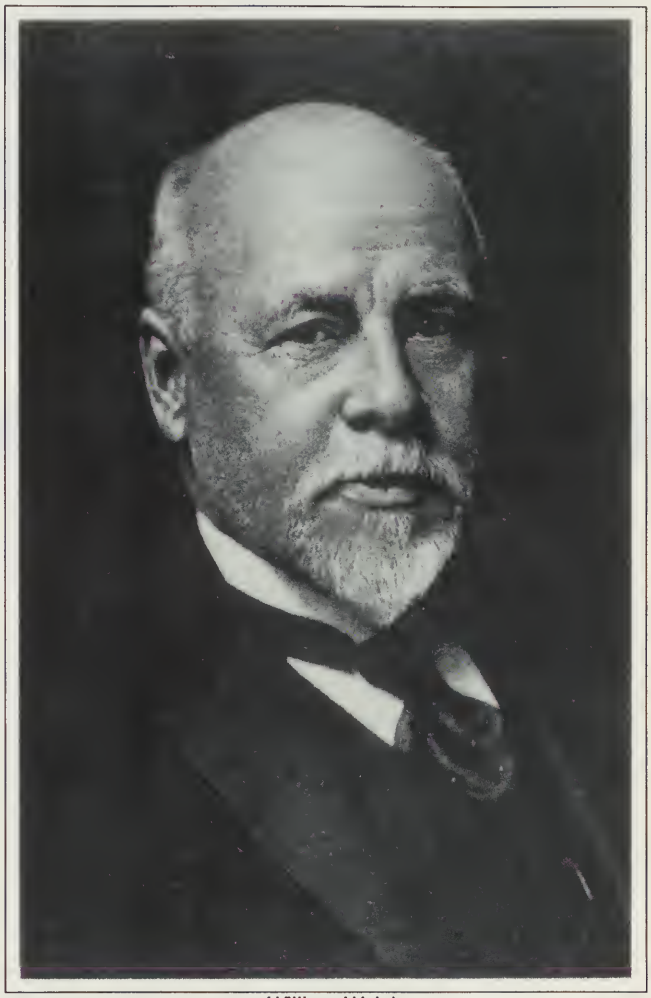
when it became quite clear that Pfeiffer's bacillus was a secondary invader during the course of epidemic influenza.

Even though G. H. A. Hanson identified *Mycobacterium leprae* in the tissues of leprous patients, the organism has not been successfully cultivated *in vitro* up until this time. An important contribution to the field was the demonstration in 1960 that *M. leprae* grows luxuriously in the mouse footpad; in 1971, the armadillo was shown to be a favorable animal host for growth of these ubiquitous organisms.

Any description of the golden era of microbiology should pay proper homage to several additional brilliant medical scientists. In 1878 to 1880, the great British tropical medicine expert, Patrick Manson, showed that the mosquito transmitted a micro filaria that caused filariasis in humans. In other studies in 1894, Manson concluded that malaria must be transmitted by the mosquito or some other suctorial insect. He postulated a cycle in the mosquito and described gametocytes, the process of exflagellation, and crescents. In his classic demonstration in 1900, infected mosquitoes were sent from Rome to London, and on August 29, allowed to bite a volunteer (Manson's son), who developed typical malaria 14 days later with tertian parasites in his blood. He was rapidly cured with quinine. Although his concepts were not proved until much later, Carlos Finlay of Cuba, proposed in 1881 that the mosquito was the transmitter of yellow fever to man. This prophecy had to wait until the Walter Reed group's work in Cuba was reported in 1900.

Theobald Smith, the great Harvard medical scientist, contributed so many things to the field of microbiology that it is hard to select any one as paramount. Texas cattle fever (also known as tick fever or southern cattle fever) had plagued the animal industry for many years. Beginning in 1889, it was Smith with Kilborne who reported a series of transmission experiments in which animals were infected by the direct application of ticks. This report, one of the classics of medical literature, established beyond question the role of the tick as the carrier of the disease. Not the least of the fruits of these experiments was the observation that the infectious agent, a protozoan, could pass in ticks from mother to offspring. This extraordinary phenomenon of insect-microbe interaction helped set the stage for Walter Reed and his group, who showed that it was necessary to incubate the virus of yellow fever in the mosquito before infection occurred. Howard T. Ricketts profited greatly from Smith's observation of transovarial transmission of an agent when he found a similar analogy in tick infection with the rickettsia of spotted fever.

Welch, Smith, Koch, Pasteur, Nicalle, and Zinsser were catalysts; they trained and stimulated others to reach their high achievements.



William Welch

This account would be incomplete if it failed to honor William Welch of Hopkins. Dr. Welch made a number of original contributions, not the least of which was his identification of the Welch bacillus. Yet, he, like Smith, Koch, Pasteur, Nicolle, Zinsser, and others, were catalysts; they trained and stimulated others to reach their high achievements. One simple but most important suggestion of Welch's to Walter Reed, in 1901, "Don't forget to filter it." This biologic principle was vital to the Cuba studies on yellow fever when it was shown that the agent would pass through a Berkfield filter.

Elie Metchnikoff, the Russian zoologist, started a ferment that persists not fully answered to the present day. In 1883, the idea of phagocytosis came to him when he was watching some mobile cells within the larvae of the starfish. In a series of papers, he commented that these phagocytes could be compared to "an army hurling itself upon the enemy microbes." In 1891, he asserted with some authority

> the premium moyens of inflammation consist of a phagocytic reaction on the part of the animal organisms. All the other phenomenon are merely accessory to this process and may be regarded as means to facilitate the access of phagocytes to the injured part.

A long battle ensued between the "humoralists," who included most pathologists and chemists on one hand, and Metchnikoff, with some support from Pasteur and Koch, on the other. Almroth Wright helped set the argument straight and pointed out that antibodies and phagocytes can cooperate with each other. Wright showed that antibody coated bacterial cells are taken up more avidly by phagocytic cells. It soon became obvious that antibacterial substances require the humoral and cellular mechanism working in full order if appropriate recovery is to ensue.

100 Years Ago

Just imagine living in the later part of the nineteenth century when infectious diseases were rampant, the causes were mysterious and often thought to be occasioned by Divine Providence, there were no vaccines to protect against the epidemic scourges, infant and child mortality was alarmingly high, the average life expectancy for adults was about 40 years, and death was accepted as a challenge of life. Yet several handsful of inspired persons with spring in their hearts and courage in their beliefs provided some of the most essential information necessary for the ultimate clarification on the mysteries of tuberculosis, typhoid fever, diphtheria, tetanus, cholera, anthrax, pneumonia, rabies, brucellosis, leptospirosis, leprosy, as well as acceptance of the germ concept of illness. The answers to many other epidemic scourges, including malaria, plague, typhus, and yellow fever, were on the brink of discovery at the turn of the century and followed in the footsteps of the remarkable 1880s. Do we not have a proud medical heritage?

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Aging and Caring

Paul E. Ruskin MD

Dr. Ruskin is Chief of Geriatric Psychiatry, Baltimore Veterans Administration Medical Center and Director of Geriatric Psychiatry, University of Maryland.

I was invited to present a lecture to a class of graduate nurses who were studying the "Psychosocial Aspects of Aging." I started my lecture with the following case presentation:

The patient is a white female who appears her reported age. She neither speaks nor comprehends the spoken word. Sometimes she babbles incoherently for hours on end. She is disoriented about person, place and time. She does, however, seem to recognize her own name. I have worked with her for the past six months, but she still does not recognize me.

She shows complete disregard for her physical appearance and makes no effort whatsoever to assist in her own care. She must be fed, bathed, and clothed by others. Because she is edentulous, her food must be pureed, and because she is incontinent of both urine and stool, she must be changed and bathed often. Her shirt is generally soiled from almost incessant drooling. She does not walk. Her sleep pattern is erratic. Often she awakens in the middle of the night, and her screaming awakens others.

Most of the time she is very friendly and happy. However, several times a day she gets quite agitated without apparent cause. Then she screams loudly until someone comes to comfort her.

After the case presentation, I asked the nurses how they would feel about taking care of a patient such as the one described. They used words such as "frustrated," "hopeless," "depressed," and "annoyed" to describe how they would feel.

When I stated that I enjoyed taking care of her and that I thought they would, too, the class looked at me in disbelief. I then passed around a picture of the patient: my 6-month-old daughter.

After the laughter had subsided, I asked why it was so much more difficult to care for a 90-year-old than a 6-month-old with identical symptoms. We all agreed that it is physically easier to take care of a helpless baby weighing 15 pounds than a helpless adult weighing 100, but the answer seemed to go deeper than this.

The infant, we all agreed, represents new life, hope, and almost infinite potential. The demented senior citizen, on the other hand, represents the end of life, with little potential for growth.

We need to change our perspective. The aged patient is just as lovable as the child. Those who are ending their lives in the helplessness of old age deserve the same care and attention as those who are beginning their lives in the helplessness of infancy.

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To some, perception is reality and reality does not exist outside of one's perception. This phenomenon occurs when we deal with the public, primarily because of what we know to be the inference-observation confusion. This confusion results when that which one observes and passes on to a listener is repeated by the listener as if he/she had made the same observation. In reality, the listener is only making an inference. We would do well to guard against accepting such inferences by withholding judgment until facts are assimilated. Dr. Paul Ruskin makes that point very well.

Angelo J. Troisi, Executive Director

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In the Matter of
Nathaniel Aikens-Afful MD,
Before the
Maryland State Board of
Physician Quality Assurance

Order Terminating Probation and Reinstating License

By Order dated October 2, 1984 (the "1984 Order"), the Board of Physician Quality Assurance (the "Board"), successor agency to the Commission on Medical Discipline, found Nathaniel Aikens-Afful MD, (the "Respondent") guilty of committing a prohibitive act as set forth in Health Occupations Article, *Annotated Code of Maryland* ("HO") §14-504. Specifically, the Board found that Respondent pled guilty or nolo contendere with respect to a crime involving moral turpitude whether or not any appeal or other proceeding is pending to have the conviction or plea set aside (recodified as §14-504(b)(1) of the Health Occupations Article). The Board revoked Respondent's medical license, immediately staying the revocation, conditioned upon the Respondent complying with terms and conditions (the "Conditions of Probation"). The Order further provided that after three years from the date of the Order, if the Respondent demonstrated to the Board's satisfaction that he had complied with the terms and conditions of his probation, the Board would entertain a petition for termination of Respondent's probationary status and reinstatement of his medical license. By letter received October 31, 1988, Respondent petitioned the Board for reinstatement of his license to practice medicine in Maryland. At its meeting on December 14, 1988, the Board reviewed Respondent's petition for reinstatement. Based on its review of the petition, the Board determined that Respondent had fulfilled the Conditions of Probation contained in the 1984 Order.

Findings of Fact

Based on the information known and available to it, the Board finds that:

1. Respondent arranged for his probation officer to file written reports with the Board, verifying that he was complying with all terms and conditions of his criminal probation;
2. Respondent did not engage in activities of the type that led to his criminal conviction;
3. Respondent did not violate any other provisions of the Maryland Medical Practice Act, Health Occupations Article §14-101 *et seq.*, *Annotated Code of Maryland*; and
4. Respondent practiced fully in accordance with those standards expected of a competent practitioner of medicine in the State of Maryland.

Conclusions of Law

The Board concludes, as a matter of law, that Respondent has satisfactorily complied with all conditions as set forth in the Order of October 2, 1984.

Order

Upon the foregoing Findings of Fact and Conclusions of Law, it is this 14th day of December 1988 by a unanimous vote of a quorum of the Board:

ORDERED that effective as of the date of this Order, the Conditions of Probation imposed upon Respondent's practice of medicine by the Board's 1984 Order are hereby **TERMINATED** and of no further force and effect; and be it further

ORDERED that Respondent's license to practice medicine in the State of Maryland be **REINSTATED** without any condition or restriction whatsoever; AND IT IS FURTHER

ORDERED that this is a Final Order.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance

■ ■ ■

In the Matter of
Robert S. Coplan MD
Before the
Maryland State Board
of Physician Quality Assurance

Order for Summary Suspension of License to Practice Medicine

The Board of Physician Quality Assurance (the "Board") herein set forth the following background information pertinent to the context in which the instant order for summary suspension of license to practice medicine arises:

1. Based on certain information that came to its attention, the Board initiated an investigation into the Respondent's practice of prescribing and dispensing controlled dangerous substances in return for sexual favors.
2. Respondent is a physician licensed to practice medicine in the State of Maryland specializing in the practice of obstetrics and gynecology.
3. In connection with the Board's investigation, the Division of Drug Control of the Department of Health and Mental Hygiene was requested to perform a drug survey. The results of the drug survey are attached collectively hereto as Exhibit A. The results encompass five different pharmacies for the period June 1987 through June 1988.
4. The drug survey lists several drugs that are primarily mood-enhancing or mood-elevating drugs

prescribed to patients in connection with Respondent's obstetrical and gynecological practice.

5. Subsequently, a criminal investigation was initiated that resulted in charges being brought against Respondent for prescribing a controlled dangerous substance to an undercover police officer in return for sexual favors. See Statement of Charges attached hereto as Exhibit B.

6. Following the undercover investigation, in excess of 25 complaints were received by the Narcotics section of the Anne Arundel County Police Department alleging, in most instances, sexual misconduct with a patient.

Findings of Fact

Based on the information set forth above and the Exhibits hereto, the Board has reason to believe the following facts are true:

1. Respondent is a physician licensed to practice medicine in the State of Maryland.

2. Respondent is presently specializing in the practice of obstetrics and gynecology at 407 Crain Highway SE, Glen Burnie, MD 21061.

3. On December 8, 1988, Detective Kim Smith, a police officer in the Narcotics section of the Anne Arundel County Police Department, proceeded to Respondent's office located at 407 Crain Highway SE, Glen Burnie, MD.

4. Detective Smith was wearing a pager transmitter and was accompanied by two other detectives who remained in the vicinity when Detective Smith went into Respondent's office for a consultation.

5. During the course of the consultation, Detective Smith advised Respondent that she had a good relationship with her former doctor in Nevada who would give her Valium "to keep [her] going, and [she] would take care of him."

6. Respondent thereupon stated that he would prescribe the Valium without a physical examination or indication of a medical problem.

7. Respondent then wrote a prescription for 5 mg of Valium with three refills. Respondent also provided Detective Smith with three packs of Tri-Levin 21, Birth Control Pills.

8. After Detective Smith received the prescription for Valium, sexual favors were discussed.

9. Respondent was subsequently arrested and charged with unlawfully prescribing a controlled dangerous substance not in the course of his regular professional duties in violation of Article §27, 288, *Annotated Code of Maryland*. See Exhibit B incorporated by reference herein.

10. Subsequent to the undercover investigation set forth above, in excess of 25 complaints alleging sexual misconduct in the course of Respondent's practice at 407 Crain Highway SE, Glen Burnie, MD were received by the Narcotics section of the Anne Arundel County Police Department.

Conclusions of Law

Based on the foregoing facts, the Board finds that the public health, safety, and welfare imperatively requires emergency action in this case pursuant to State Government Article, §10-405(b) *Annotated Code of Maryland*.

Order

It is this 22nd day of December 1988 by the Board of Physician Quality Assurance

ORDERED that pursuant to the authority vested in the Board by the State Government Article, §10-405 of the *Annotated Code of Maryland*, Respondent's license to practice medicine in the State of Maryland be and hereby is **SUMMARILY SUSPENDED**; be it further

ORDERED that a hearing to consider this emergency suspension shall be held before a hearing examiner, pursuant to State Government Article, Administrative Procedure Act, 10-207 within thirty (30) days of the date on which this Board receives a written request for such a hearing from the Respondent; and be it further

ORDERED that this is a final Order.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance

■ ■ ■

In the Matter of James E. Crosby MD Before the Maryland State Board of Physician Quality Assurance

Order for Summary Suspension of License to Practice Medicine

Based on information received by the State Board of Physician Quality Assurance (the "Board"), the Board hereby issues as set forth herein Findings of Fact, Conclusions of Law, and Order for Summary Suspension (the "Emergency Suspension") with regard to the license to practice medicine of James E. Crosby MD (the "Respondent").

Findings of Fact

Based on the information made known and available to the Board as of the date of the issuance of this Emergency Suspension, the Board has reason to believe the following facts are true:

1. Respondent is licensed to practice medicine in the State of Maryland.

2. Respondent possesses Maryland Controlled Dangerous Substances (CDS) Registration Number M11935, which expires June 30, 1989.

3. Respondent possesses United States Drug Enforcement Administration (DEA) Registration Number AC 8632970, which expires August 31, 1990.

4. Respondent was Patient A's primary physician for the past six (6) years for chronic obstructive pulmonary disease (COPD). In February 1988, Patient A became bedridden due to several crushed vertebrae. Patient A complained of severe back pain. Respondent treated Patient A at Patient A's home from February 1988 until April 7, 1988. During that time, Respondent prescribed Levo-Dromoran and Demerol for relief of Patient A's pain.

5. Patient A was hospitalized at Frederick Memorial Hospital from April 7, 1988 to May 4, 1988.

6. Patient A returned home on May 4, 1988 and Respondent resumed primary care of Patient A. Respondent visited Patient A at home at least every other day from May 5, 1988 until Patient A was hospitalized on November 7, 1988.

7. From May 5, 1988 until November 7, 1988, Respondent wrote prescriptions for Demerol for Patient A that Patient A's wife took to several pharmacies. Whenever Respondent prescribed Demerol for injection, Respondent instructed Patient A's wife to get the prescription filled and give the vial to Respondent at his office. Patient A's wife did as Respondent instructed and gave the vial to either Respondent or Respondent's wife at Respondent's office immediately after the prescription was filled. Whenever Respondent prescribed Demerol tablets for Patient A, Respondent instructed Patient A's wife to get the prescription filled and put the Demerol tablets on Patient A's bedside. Patient A's wife did as Respondent instructed.

8. On several occasions, while Respondent was visiting Patient A, Patient A's wife saw Respondent open the bottle containing Demerol tablets on Patient A's bedside table and put Demerol tablets into Respondent's pocket.

9. While Patient A was bedridden, he received Demerol injections from either Respondent or Respondent's wife, a nurse. No one other than Respondent or Respondent's wife gave Patient A Demerol injections. Either Respondent or Respondent's wife brought the vial of Demerol to Patient A's home for the injection. When Respondent and Respondent's wife left Patient A's home, they took the vial of Demerol.

10. In or about August 1988, Respondent's wife gave Patient A's wife a prescription for injectable Demerol written in the name of Patient A by Respondent. Respondent's wife asked Patient A's wife to get the prescription filled so that Respondent's wife could give it to another patient. Patient A's wife took the prescription to the pharmacy where it was filled. Patient A's wife gave the injectable Demerol to Respondent's wife. Patient A's wife believed that the Demerol was not intended for Patient A.

11. Based on certain information that came to its attention, the Board initiated an investigation into Respondent's practice of prescribing and dispensing controlled dangerous substances for Patient A.

12. In connection with the Board's investigation, the Division of Drug Control of the Department of Health and Mental Hygiene performed a drug survey of seven pharmacies in Frederick, MD where Respondent practices medicine.

13. The drug survey revealed that Respondent wrote the following prescriptions for Patient A:

Prescription Number	Date	Drug	Strength	Quantity
906838	02/24/88	Levo-Dromoran	2 mg	24 tablets
906978	02/29/88	Levo-Dromoran	2 mg	48 tablets
907232	03/07/88	Levo-Dromoran	2 mg	24 tablets
543076	03/14/88	Meperidine	50 mg	50 tablets
543077	03/14/88	Meperidine	50 mg/ml	30 ml
543329	03/20/88	Meperidine	50 mg	100 tablets
543523	03/25/88	Meperidine	50 mg/ml	30 ml
543751	03/31/88	Demerol	50 mg/ml	30 ml
543752	03/31/88	Demerol	50 mg	100 tablets
545142	05/12/88	Demerol	50 mg/ml	30 ml
545141	05/12/88	Demerol	50 mg	100 tablets
909905	05/19/88	Demerol	50 mg/ml	30 ml
545728	05/27/88	Demerol	50 mg/ml	30 ml
910222	05/27/88	Demerol	50 mg	100 tablets
910445	05/31/88	Demerol	100 mg	150 tablets
910742	06/11/88	Demerol	50 mg/ml	30 ml
910973	06/17/88	Demerol	50 mg/ml	30 ml
911136	06/20/88	Demerol	100 mg	100 tablets
911190	06/24/88	Demerol	50 mg/ml	30 ml
911310	06/28/88	Demerol	50 mg/ml	30 ml
911647	07/08/88	Demerol	50 mg/ml	30 ml
911781	07/08/88	Demerol	100 mg/ml	10 ml
121774	07/08/88	Demerol	100 mg	70 tablets
911819	07/13/88	Demerol	50 mg/ml	50 ml
912084	07/21/88	Demerol	50 mg/ml	60 ml
912178	07/22/88	Demerol	100 mg	100 tablets
912322	07/27/88	Demerol	50 mg/ml	60 ml
912470	07/31/88	Demerol	50 mg/ml	60 ml
912749	08/09/88	Demerol	50 mg/ml	30 ml
912919	08/13/88	Demerol	50 mg/ml	30 ml
913001	08/15/88	Demerol	100 mg	100 tablets
913192	08/20/88	Demerol	50 mg/ml	60 ml
913374	08/26/88	Demerol	50 mg/ml	30 ml
913478	08/29/88	Demerol	50 mg/ml	30 ml
913574	08/31/88	Demerol	100 mg	20 tablets
913586	09/01/88	Demerol	50 mg/ml	60 ml
913707	09/01/88	Demerol	100 mg	20 tablets
913711	09/03/88	Demerol	50 mg/ml	60 ml
913807	09/07/88	Demerol	100 mg	20 tablets
913885	09/08/88	Demerol	50 mg/ml	60 ml
913945	09/10/88	Levo-Dromoran	2 mg	100 tablets
913969	09/12/88	Demerol	50 mg/ml	60 ml
914108	09/15/88	Demerol	50 mg/ml	60 ml
914777	10/02/88	Demerol	50 mg/ml	30 ml
914833	10/03/88	Demerol	50 mg/ml	60 ml
915002	10/07/88	Demerol	50 mg/ml	60 ml
432072	10/10/88	Demerol	100 mg/ml	20 ml
915149	10/11/88	Demerol	50 mg/ml	60 ml
432216	10/13/88	Demerol	100 mg/ml	20 ml
915267	10/14/88	Demerol	50 mg/ml	60 ml
915353	10/17/88	Demerol	50 mg/ml	60 ml
915571	10/21/88	Demerol	50 mg/ml	30 ml
915679	10/25/88	Demerol	50 mg/ml	30 ml
915773	10/26/88	Demerol	50 mg/ml	60 ml
915948	10/29/88	Demerol	50 mg/ml	60 ml
916065	11/01/88	Demerol	50 mg/ml	30 ml
916126	11/02/88	Demerol	100 mg/ml	20 ml
916251	11/05/88	Demerol	50 mg/ml	60 ml

14. Patient A had a history of chronic obstructive pulmonary disease (COPD). Based on the amounts of

Demerol prescribed by Respondent, Patient A was at risk for respiratory arrest if he actually received the amount of Demerol Respondent prescribed.

15. There was no medical reason for Respondent to write a prescription for Demerol 50 mg/ml, 30 ml and Demerol 100 mg/ml, 10 ml and Demerol 100 mg, 70 tablets on July 8, 1988.

16. Levo-Dromoran and Meperidine (Demerol) are Schedule II controlled dangerous substances.

17. It is unlawful for a practitioner to prescribe any controlled dangerous substances except in the course of his regular professional duties and in conformance with the provisions of *Md. Ann. Code* art. 27, § 276 *et seq* (1987), and the standards of his particular profession relating to controlled dangerous substances.

18. Writing prescriptions for Demerol for one patient when the Demerol is intended for use by another patient is unlawful. (See *Md. Ann. Code* art. 27, §287(b) (1987).

19. Based on the above Findings of Fact, the Board has reason to believe that Respondent has violated *Md. Health Occ. Code Ann.* §14-504(a) (28) (1988 Cum. Supp.) that provides:

> Subject to the hearing provisions of §14-505 of this subtitle, the Board, on the affirmative vote of a majority of its full authorized membership, may reprimand any licensee, place any license if the licensee... sells, prescribes, gives away, or administers drugs for illegal or illegitimate medical purposes.

20. Writing prescriptions for Demerol in the amounts that Respondent prescribed as listed in paragraph 13 above for an individual with multiple medical problems poses a risk to the health, safety, and welfare of that individual.

21. Respondent's retention of a Maryland license to practice medicine and his ability to prescribe controlled dangerous substances poses a grave risk and imminent danger to the public health, safety, and welfare of the citizens of Maryland.

Conclusions of Law

Based on the foregoing facts, the Board finds that the public health, safety, and welfare imperatively requires emergency action in this case, pursuant to Md. State Gov't. Code Ann. §10-405(b) (1984).

Order

It is this 28th day of December 1988 by the State Board of Physician Quality Assurance:

ORDERED that pursuant to the authority vested in the Board by Md. State Gov't. Code Ann. § 10-405(b) (1984), Respondent's license to practice medicine in the State of Maryland is hereby **SUMMARILY SUSPENDED**; and be it further

ORDERED that on presentation of this Order, Respondent shall immediately deliver or have delivered to the Board:

1. his original Maryland license from the Board of Medical Examiners;
2. his renewal card for his license to practice medicine from the Board of Physician Quality Assurance;
3. his U.S. Drug Enforcement Administration Registration Certificate;
4. his Maryland Controlled Dangerous Substances Registration Certificate and
5. any prescription pads on which his name and DEA number are imprinted; and be it further

ORDERED that a hearing to consider this emergency suspension shall be held before a Hearing Examiner within thirty (30) days of the date on which the Board receives a written request for such a hearing from the Respondent; and be it further

ORDERED that this a FINAL ORDER.

ISRAEL H. WEINER MD, Chairman
Maryland State Board of Physician Quality Assurance ■

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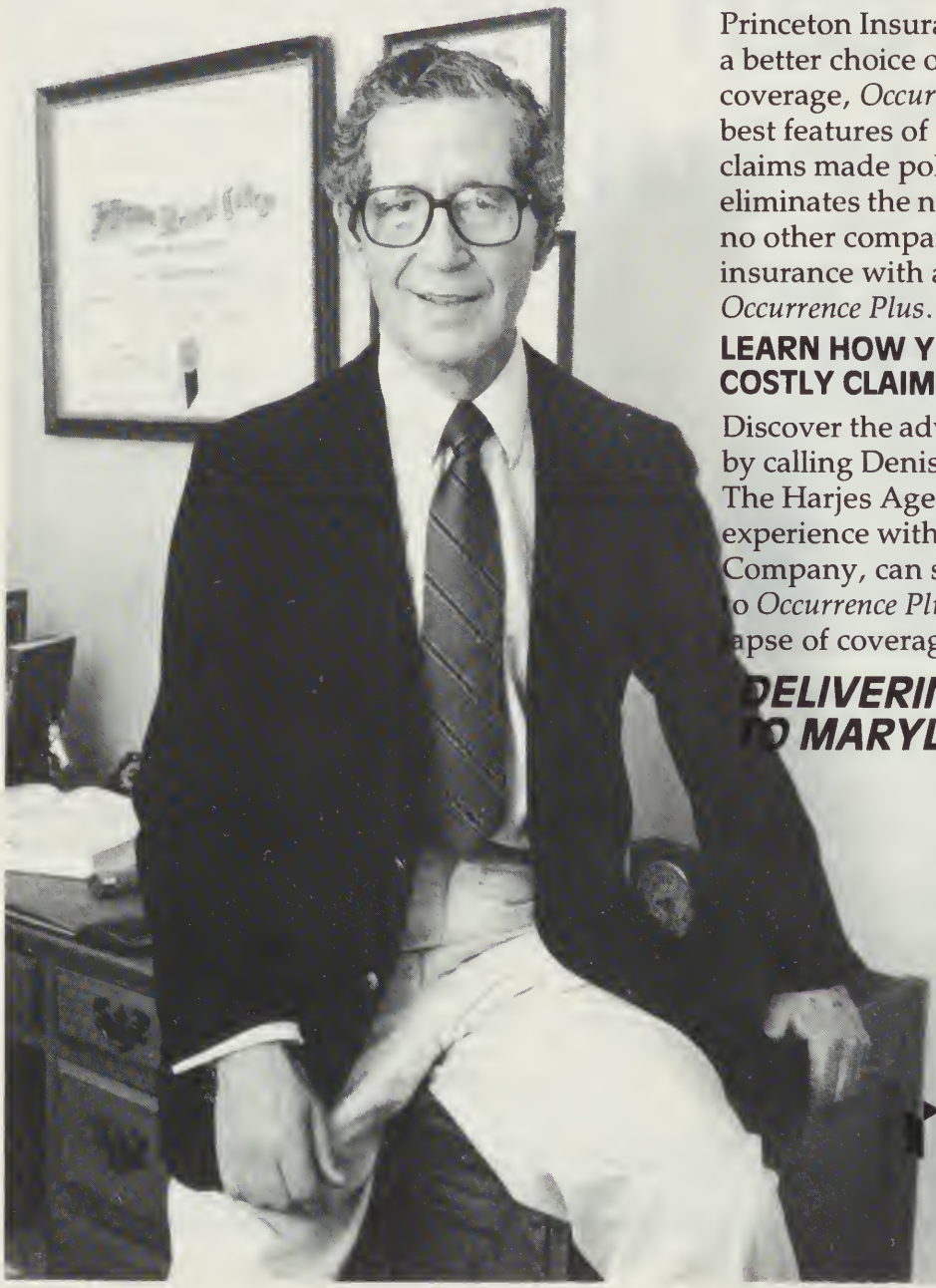
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0930A9

Please see brief summary of prescribing information on next page.

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*Dosage must be adjusted to each patient's needs, starting with 60 to 120 mg twice daily.

BRIEF SUMMARY
CARDIZEM® SR
(diltiazem hydrochloride)
Sustained Release Capsules

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, (3) patients with hypotension (less than 90 mm Hg systolic), (4) patients who have demonstrated hypersensitivity to the drug, and (5) patients with acute myocardial infarction and pulmonary congestion documented by x-ray on admission.

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (nine of 2,111 patients or 0.43%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). An acute study of oral diltiazem in patients with impaired ventricular function (ejection fraction 24% ± 6%) showed improvement in indices of ventricular function without significant decrease in contractile function (dp/dt). Experience with the use of CARDIZEM (diltiazem hydrochloride) in combination with beta-blockers in patients with impaired ventricular function is limited. Caution should be exercised when using this combination.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** Mild elevations of transaminases with and without concomitant elevation in alkaline phosphatase and bilirubin have been observed in clinical studies. Such elevations were usually transient and frequently resolved even with continued diltiazem treatment. In rare instances, significant elevations in enzymes such as alkaline phosphatase, LDH, SGDT, SGPT, and other phenomena consistent with acute hepatic injury have been noted. These reactions tended to occur early after therapy initiation (1 to 8 weeks) and have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in some cases, but probable in some. (See PRECAUTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Dermatological events (see ADVERSE REACTIONS section) may be transient and may disappear despite continued use of CARDIZEM. However, skin eruptions progressing to erythema multiforme and/or exfoliative dermatitis have also been infrequently reported. Should a dermatologic reaction persist, the drug should be discontinued.

Drug Interaction. Due to the potential for additive effects, caution and careful titration are warranted in patients receiving CARDIZEM concomitantly with any agents known to affect cardiac contractility and/or conduction. (See WARNINGS.) Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

As with all drugs, care should be exercised when treating patients with multiple medications. CARDIZEM undergoes biotransformation by cytochrome P-450 mixed function oxidase. Coadministration of CARDIZEM with other agents which follow the same route of biotransformation may result in the competitive inhibition of metabolism. Dosages of similarly metabolized drugs, particularly those of low therapeutic ratio or in patients with renal and/or hepatic impairment, may require adjustment when starting or stopping concomitantly administered CARDIZEM to maintain optimum therapeutic blood levels.

Beta-blockers: Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated, but available data are not sufficient to predict the effects of concomitant treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities.

Administration of CARDIZEM (diltiazem hydrochloride) concomitantly with propranolol in five normal volunteers resulted in increased propranolol levels in all subjects and bioavailability of propranolol was increased approximately 50%. If combination therapy is initiated or withdrawn in conjunction with propranolol, an adjustment in the propranolol dose may be warranted. (See WARNINGS.)

Cimetidine: A study in six healthy volunteers has shown a significant increase in peak diltiazem plasma levels (58%) and area-under-the-curve (53%) after a 1-week course of cimetidine at 1,200 mg per day and diltiazem 60 mg per day. Ranitidine produced smaller, nonsignificant increases. The effect may be mediated by cimetidine's known inhibition of hepatic cytochrome P-450, the enzyme system probably responsible for the first-pass metabolism of diltiazem. Patients currently receiving diltiazem therapy should be carefully monitored for a change in pharmacological effect when initiating and discontinuing therapy with cimetidine. An adjustment in the diltiazem dose may be warranted.

Digitalis: Administration of CARDIZEM with digoxin in 24 healthy male subjects increased plasma digoxin concentrations approximately 20%. Another investigator found no increase in digoxin levels in 12 patients with coronary artery disease. Since there have been conflicting results regarding the effect of digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing CARDIZEM therapy to avoid possible over- or under-digitalization. (See WARNINGS.)

Anesthetics: The depression of cardiac contractility, conductivity, and automaticity as well as the vascular dilation associated with anesthetics may be potentiated by calcium channel blockers. When used concomitantly, anesthetics and calcium blockers should be titrated carefully.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded from these studies.

The adverse events described below represent events observed in clinical studies of hypertensive patients receiving either CARDIZEM Tablets or CARDIZEM SR Capsules as well as experiences observed in studies of angina and during marketing. The most common events in hypertension studies are shown in a table with rates in placebo patients shown for comparison. Less common events are listed by body system; these include any adverse reactions seen in angina studies that were not observed in hypertension studies. In all hypertensive patients studied (over 900), the most common adverse events were edema (9%), headache (8%), dizziness (6%), asthenia (5%), sinus bradycardia (3%), flushing (3%), and 1° AV block (3%). Only edema and perhaps bradycardia and dizziness were dose related. The most common events observed in clinical studies (over 2,100 patients) of angina patients and hypertensive patients receiving CARDIZEM Tablets or CARDIZEM SR Capsules were (ie, greater than 1%) edema (5.4%), headache (4.5%), dizziness (3.4%), asthenia (2.8%), first-degree AV block (1.8%), flushing (1.7%), nausea (1.6%), bradycardia (1.5%), and rash (1.5%).

DOUBLE BLIND PLACEBO CONTROLLED HYPERTENSION TRIALS

Adverse	Diltiazem N=315 # pts (%)	Placebo N=211 # pts (%)
headache	38 (12%)	17 (8%)
AV block first degree	24 (7.6%)	4 (1.9%)
dizziness	22 (7%)	6 (2.8%)
edema	19 (6%)	2 (0.9%)
bradycardia	19 (6%)	3 (1.4%)
ECG abnormality	13 (4.1%)	3 (1.4%)
asthenia	10 (3.2%)	1 (0.5%)
constipation	5 (1.6%)	2 (0.9%)
dyspepsia	4 (1.3%)	1 (0.5%)
nausea	4 (1.3%)	2 (0.9%)
palpitations	4 (1.3%)	2 (0.9%)
polyuria	4 (1.3%)	2 (0.9%)
somnolence	4 (1.3%)	—
alk phos increase	3 (1%)	1 (0.5%)
hypotension	3 (1%)	1 (0.5%)
insomnia	3 (1%)	1 (0.5%)
rash	3 (1%)	1 (0.5%)
AV block second degree	2 (0.6%)	—

In addition, the following events were reported infrequently (less than 1%) or have been observed in angina trials. In many cases, the relation to drug is uncertain.

Cardiovascular: Angina, arrhythmia, bundle branch block, tachycardia, ventricular extrasystoles, congestive heart failure, syncope.

Nervous System: Amnesia, depression, gait abnormality, hallucinations, nervousness, paresthesia, personality change, tinnitus, tremor, abnormal dreams.

Gastrointestinal: Anorexia, diarrhea, dysgeusia, mild elevations of SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase, thirst.

Dermatological: Petechiae, pruritus, photosensitivity, urticaria.

Other: Amblyopia, CPK increase, dyspnea, epistaxis, eye irritation, hyperglycemia, sexual difficulties, nasal congestion, nocturia, osteoarticular pain, impotence, dry mouth.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. Definitive cause and effect relationship between these events and CARDIZEM therapy cannot yet be established.

Issued 1/89

References: 1. Staessen J, Fagard R, Lijnen P, et al: *Pract Cardiol* 1986;12(5):55-65. **2.** Massie B, MacCarthy EP, Ramanathan KB, et al: *Ann Intern Med* 1987;107(2):150-157. **3.** Weir MR, Josselson J, Giard MJ, et al: *Am J Cardiol* 1987;60:361-411. **4.** Frishman WH, Zawada ET Jr, Smith LK, et al: *Am J Cardiol* 1987;59:615-623. **5.** Pool PE, Seagren SC, Salel AF: *Am J Cardiol* 1985;56:86H-91H. **6.** Pool PE, Seagren SC, Salel AF: *Cardiol Board Rev* 1986;3(10):77-91. **7.** Sunderrajan S, Reams G, Bauer JH: *Hypertension* 1986;8:238-242. **8.** Amodeo C, Kobrin I, Ventura HO, et al: *Circulation* 1986;73(1):108-113. **9.** Schulte K-L, Meyer-Sabellek WA, Haertenberger A, et al: *Hypertension* 1986;8:859-865.

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Miscellaneous Meetings

April 7-8 **Symposium on Geriatric Medicine** sponsored by Franklin Square Hospital Center, Georgetown University School of Medicine and Center for Aging in conjunction with the American Geriatrics Society and The Health and Education Council, Inc.; Marriott's Hunt Valley Inn, Baltimore. Fee: $275 regular, $235 residents and nurses; 13.75 AMA Cat I credits, 13.75 hours AAFP, other appropriate credits available. Info: The Health and Education Council, Inc. 301-686-3610.

April 12-16 **Third Annual Course in Critical Care Medicine**, Center for Bio-Medical Communication in cooperation with Department of Critical Care Medicine NIH, to be held at Crowne Plaza Hotel in Rockville, MD. Fee: $695; reduced rates available to physicians-in-training and allied professionals Info: S. Lisanti, Center for Bio-Medical Communication, 491 Grand Ave, Englewood, NJ 07631 (201-385-1808).

April 14 **The Clinician's Approach to Oral, Head, and Facial Pain**, cosponsored by Jefferson Medical College, the Delaware State Dental Society, The Medical Center of Delaware, and the University of Delaware. Held at the University of Delaware, John M. Clayton Hall, Newark, DE. Fee: $160/$85 student or resident. Info: S. Brocka, University of Delaware, 2800 Penn. Ave., Wilmington, DE 19806 (301-573-4400).

April 17-19 **Oral Complication of Cancer Therapies: Diagnosis, Prevention, and Treatment**, NIH Consensus Development Conference, MasurAuditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

April 20-22 **Annual Meeting, The Virginia Society of Otolaryngology-HNS**, The Tides Inn, Irvington, VA. Info: D. Strawderman 804-353-2721.

April 28-30 **The 24th Annual Pediatric Springfest**, presented by the Department of Pediatrics, Children's Medical Center and the Office of Continuing Education in Medicine and Allied Health Professionals at the Medical College of Virginia, Virginia Commonweatlh University. Held at the Royce Hotel, Williamsburg, VA. 13 AMA Cat I credits, 13 PREP credits, 1.3 CEUs. Info: F. Burroughs 804-786-0494.

May 5 **Brief Topics in Chemical Dependency**, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

May 8-10 **Sunlight, Ultraviolet Radiation, and the Skin**, NIH Consensus Development Conference, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

May 12-13 **Annual Meeting, The Virginia Society of Ophthalmology**, Homestead Resort, Hot Springs, VA. Info: D. Strawderman 804-353-2721.

May 14-17 **1989 American Trauma Society Annual Meeting**, Crystal Gateway Marriott Hotel, Arlington, VA. Info: V. Hutchinson 800-556-7890, 301-925-8811.

May 20 **Annual Meeting Washington, DC Area Affiliate of the American Diabetes Assoc.** at the Washington Plaza Hotel, Vermot and Massachusetts Aves. Fee: $25; 3 CME credits. Info: ADA office 202-331-8303.

June 5-9 **EVMS Family Medicine Review Course - Fifth Edition**, Sheraton Beach InnVirginia Beach, VA. Info: 804-446-6140.

The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Balto., MD 21205 (301-955-5880).

April 4-5 **In Vitro Toxicology - New Directions.** Fee: $300; 14 AMA Cat I credits or 1.4 CEU. Info: C. Kearney 301-955-2959.

April 6-7 **Diagnosis and Treatment of Neoplastic Disorders - Medical, Surgical, and Radiotherapeutic** Aspects. Fee: $250, $90 non-Maryland physicians-in-training; 14 AMA Cat I credits. Info: J. Ryan 301-955-2959.

April 10-12 **Topic in Ambulatory Medicine IV**, Harbor Court Hotel. Fee: TBA; 16 AMA Cat I credits. Info: F. Boling 301-955-2959.

April 13-14 **J.Donald Woodruff Symposium on Gynecologic Oncology** and **April 15 The Houston Everett Memorial Course in Gynecologic Urology**, the Lord Baltimore Radisson Plaza Hotel, Baltimore. Fee: both sessions - physicians $440, residents $280; Gynocologic Oncology only physicians $320, residents $200; Gynecologic Urology only - physicians $120, resdidents $80. AMA Cat I credit. Info: J. Ryan 301-955-2959.

April 24 **Ophthalmic Nursing Seminar**: Update '89. Fee: $65, $55 @ for groups of 7 or more. Info: F. Boling 301-955-2959.

April 24-26 **Toxicology Update '89: Current Concepts in Inhalation Toxicology.** Fee: $450; *limited to 50.* Info: J. Corn 301-955-2609.

May 8-13 **Topics in Clinical Medicine.** Fee: $630 physicians, $450 residents/PAs and nursepractitioners; 40 AMA Cat I credits. Info: C. Kearney 301-955-2959.

June 5-16 **Second Summer Institute in Environmental Health Studies**, sponsored by the Department of Environmental Health Sciences and the School of Hygiene and Public Health. Courses: Principles of Toxicology, Risk Communication of Environmental Hazards, Fundamentals of Occupational Medicine, Contemporary Problems in Radiation Health Sciences, Introduction to Risk Assessment and Risk Management, A Computer Model of the Cardiovascular and Pulmonary Systems Capability to Handle Toxic Problems of the Environment and/or Disease. Info: J. Corn 301-955-2609.

June 11-15 **VII ISIAN: International Symposium on Infection and Allergy of the Nose -Interational Rhinology Conference**, Stoufffer Harborplace Hotel, Baltimore. Fee: $475 physicians, $350 residents & fellows; AMA Cat I credit will be available. Info: Congress Secretariat 302-955-2959.

June 14-17 **Baltimore Perinatal Colloquium.** Fee: physicians $375, residents $200; 23.5 AMA Cat I credits, ACOG cognates available. Info: J. Ryan 301-955-2959.

June 30 **The Retinal Vascular Center 19th Anniversary Meeting - Macula**, The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: May 8-12, Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Advanced Obstetrics and Gynecology. Apr 5-7. Fee: $325; 24 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA Cat I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

University of Maryland School of Medicine

CME Courses: *For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956).*

April 5	**Politics and Anesthesia,** the Second Annual Martin Helrich Lecture, sponsored by the Dept of Anesthesiology. University Club, Paca Redwood Bldg. Reception 4:30 p.m., lecture 5:30 p.m.
April 8	**Topics in Cardiothoracic Medicine**, Baltimore Marriott Hotel. Fees and credits to be determined.
April 20	**Second Effective Therapies Workshop and Symposium**, UMAB. Fee: $80; 6AMA Cat I credits.
April 26	**Dean's Conference #8: Topics in Surgery**, UMAB. Fee: $25; 5.5 AMA Cat I credits.
May 5	**Ninth Annual Albraham H. Finkelstein Memorial Lecture**, Davidge Hall (22 S. Greene St., Baltimore), 1:30 p.m. Reception to follow. Approved for CME credit.
May 5-6	**Second Symposium on Current Practices and Concepts in Endocrinology and Metabolism**, Harbor Court Hotel, Baltimore. Fee: $140; 10 AMA Cat I credits.
June 1-4	**Second Annual Trauma Anesthesia and Critical Care Symposium**, sponsored by the Maryland Institute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Dev., 11 South Paca St., Ste 303, Balto., MD 21201 (301-328-2399).
June 14-17	**Dermatology Days**, Sheraton Fontainebleau Inn, Ocean City. Fee: $250; 12 AMA Cat I credits.
June 18-23	**Fifteenth Annual Family Medicine Review Course**, Sheraton Fontainebleau, Ocean City. Fee: $395; 25 AMA Cat I credits.
June 29-30	**Eighth Annual Update in Obstetrics and Gynecology**, Maryland State House, Senate Hearing Room & Historic Inns of Annapolis. Fee: $175; 14 AMA Cat I credits and 14 ACOG credits.

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

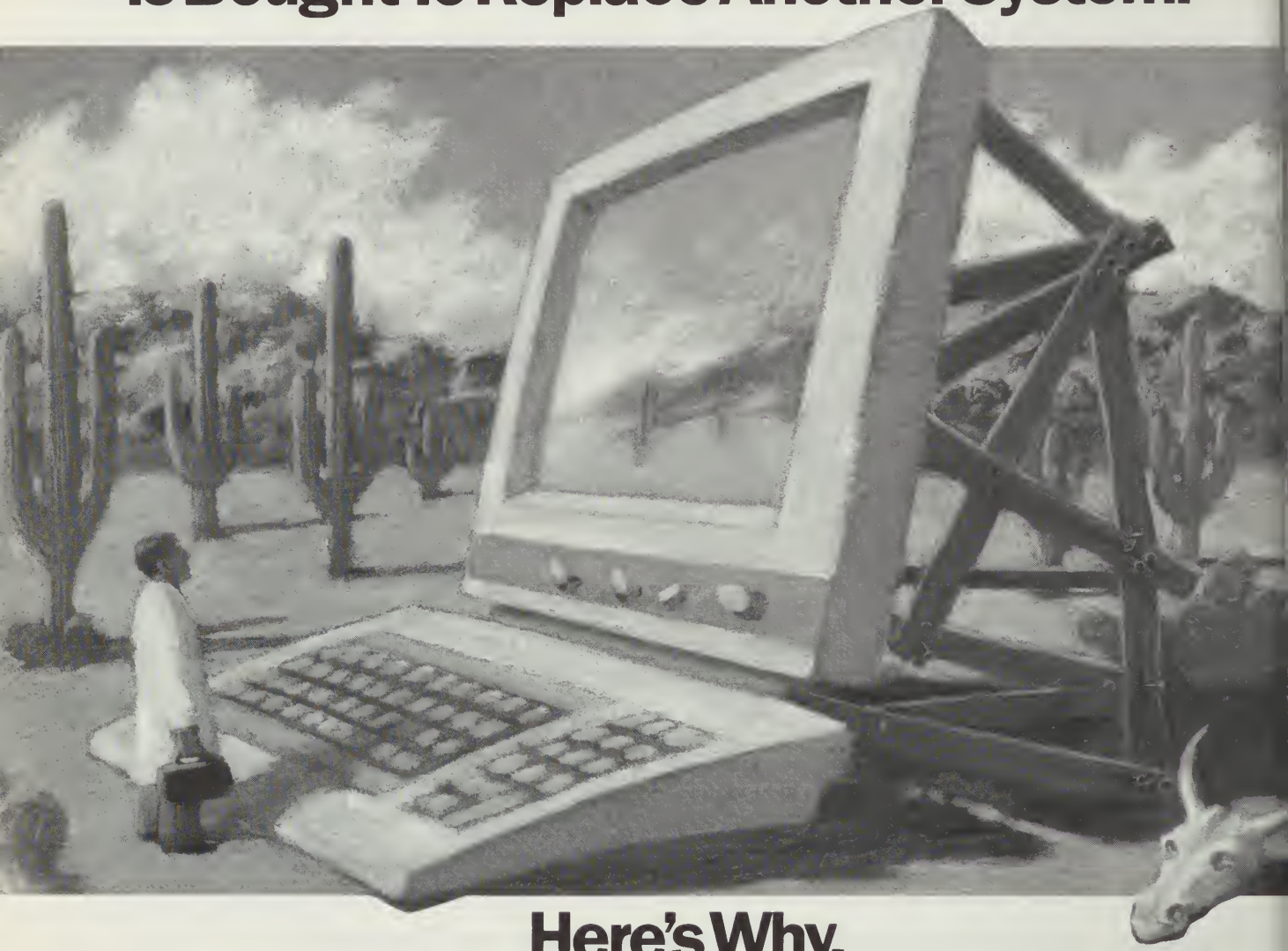
Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Direct all inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Apr 13-14 - Provider	Jul 13-14 - Provider	Oct 19-20 - Provider
May 18-19 - Provider	Aug 17-18 - Provider	Nov 16-17 - Provider
Jun 15-16 - Provider	Sep 13-15 - Instructor	Dec 14-15 - Provider ■

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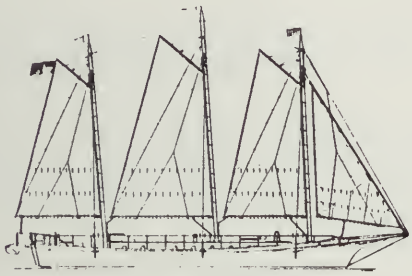
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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

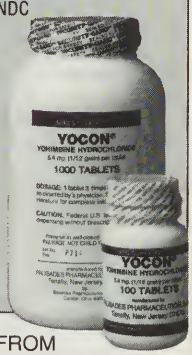
Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

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References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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April 12-14, 1989

Turf Valley Hotel and Country Club, Ellicott City, Maryland

WEDNESDAY, APRIL 12, 1989

2:00 p.m.

Plenary Session - *Congressman Tom McMillen*

4:00 - 5:30 p.m.

"**AIDS: How It Will Affect Your Practice**" - *Richard S. Schulof,* M.D.,Ph.D., George Washington University Medical Center, Washington, D.C.

Sponsored by the Med Chi Committee On Aids and the Center for Health Education, Inc.

"**Overview of Gynecologic Oncology**" - *Joseph Buscema,* M.D., Assistant Professor, Obstetrics and Gynecology, Johns Hopkins, and Chief, Gynecology and Gynecology Oncology, St. Agnes Hospital, Baltimore.

Sponsored by the Obstetrical and Gynecological Society of Maryland.

"**The Psychiatric and Medical Problems of the Homeless**" - *William R. Breakey,* M.D., Associate Professor of Psychiatry, Johns Hopkins Hospital and *John A. Talbott,* M.D., Professor and Chairman, Department of Psychiatry, University of Maryland School of Medicine, Baltimore.

Sponsored by the Med Chi Committee on Mental Health and the Maryland Psychiatric Society.

"**Imaging Update For The Practicing Pediatrician**" - *Eglal Shalaby-Rana,* M.D., Instructor, Department of Radiology, Johns Hopkins Hospital and *Amy Yale-Loehr,* M.D., Assistant Professor, Department of Radiology, University of Maryland Hospital, Baltimore.

Sponsored by the Maryland Chapter, American Academy of Pediatrics and the Maryland Radiological Society.

"**Caring for the Industrial Back Pain Patient: The Roles of Myofascial Pain and Manipulation**" - *Stephen M. Levin,* M.D., F.A.C.S., Director, Potomac Back Center, Alexandria, Virginia and *Norman B. Rosen,* M.D., F.A.A.P.M.R, Medical Director, Rehabilitation and Pain Management Associates, Baltimore.

Sponsored by the Med Chi Occupational Health Committee.

THURSDAY, APRIL 13, 1989

7:15 a.m.- PRAYER BREAKFAST

"**Medical Ethics - Code or No**" - *Anne Neale,* Ph.D., Bon Secours Health System, Columbia, Md..

Sponsored by the Med Chi Committee on Medicine and Religion.

8:45 a.m. - 12:15 p.m.

"**Heart Disease 1989: New Technologies And Techniques**" - Moderator, *Frank Claudy,* M.D.
"**Lasers And Heart Disease**" - *Stuart F. Seides,* M.D., FACP, FACC
Additional topics and speakers to be announced.

Sponsored by the American Heart Association, Maryland Affiliate, Inc.

8:45 a.m.

"**The Caring Physician: Back To Basic Issues**" - *S.Spence Meighan,* M.D., Consultant To Hospitals and Medical Staffs, Portland, Oregon.

Sponsored by Medical Mutual Liability Insurance Society of Maryland.

"**Caring With Or Without Narcotics**" - *Speaker(s) to be announced.*

Sponsored by the Med Chi Committee On Drugs.

"**Physician Assistants**" - *Speaker(s) to be announced.*

Sponsored by the Maryland Academy of Physician Assistants.

"**Medicare Fraud And Abuse**" - *Martin J. Gaynes,* Esq., Wilkes, Artis, Hedrick & Lane, Washington, D.C., and *Ronald Liebman,* Esq., Washington, D.C. Moderator, *Emilio A. Bianco,* M.D.

Topics and speakers to be announced- Sponsored by the Med Chi Medicolegal Committee

10:45 a.m.

"**The Long Term Management of the Chronic Obstructive Pulmonary Disease (COPD) Patient**" - *Lewis J. Rubin,* M.D., Head, Pulmonary Division, University of Maryland School of Medicine, Baltimore.
"**Pulmonary Rehabilition**" - *Edward W. Schaefer,* M.D., Chief, Pulmonary Medicine, Liberty Medical Center and *Bernard Farrell,* M.D., President, Medical Staff, Howard County General Hospital, Columbia, Md..

Sponsored by the Maryland Thoracic Society.

"**Breast Reconstruction**" - *John Bostwick, III,* M.D., Professor of Surgery, Division of Plastic Surgery, Emory University School of Medicine, Atlanta.

Sponsored by the John Staige Davis Society of Plastic Surgeons of Maryland.

"**Treating The Musicians Among Your Patients**" - *Richard Lederman,* M.D., Ph.D., Director, Medical Center For Performing Artists, Cleveland Clinic Foundation, Cleveland.

Sponsored by the Med Chi Music Medicine Clearinghouse.

"**The Pen Is Mightier Than The Sword - Prescription Drug Abuse**" - *Nelson H. Hendler,* M.D., Clinical Director, Mensana Clinic, Stevenson, Md..

Sponsored by the Med Chi Committee On Alcoholism and Clinical Dependency, Maryland Academy of Family Physicians, and the Maryland Psychiatric Society.

"**The Primary Care Physician's Role In The Management Of Acute Coronary Disease**" - *Henry Meilman,* M.D., Union Memorial Hospital, Balto. and *Carl L. Tommaso,* M.D., University of Maryland, Baltimore.

Sponsored by the Maryland Academy of Family Physicians.

2:00 p.m.

"**Cardiopulmonary Resuscitation - Every Patient's Right - Or Exercise in Futility?**" - *Rev. Robin Whitlock,* Baltimore, *Peter E. Dans,* M.D., Baltimore, and *Michael Ryan,* Esq., Baltimore.

Sponsored by the Med Chi Professional Ethics Committee and the Committee On Medicine and Religion.

"**Lipid Measurement Issues for Clinicians**" - *Gerald Cooper,* M.D., Ph.D., Research Medical Officer, Division of Environmental Health and Injury Control, Centers for Disease Control, Atlanta and *Jack DeBoy,* Ph.D., Chief, Division of Laboratory Licensure and Training, Maryland Department of Health and Mental Hygiene, Baltimore.

Sponsored by the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors.

"**Long Term Outcome And Management Of Chronic Urticaria**" - *Gary Rachelefsky,* M.D., Clinical Professor Of Pediatrics, UCLA Medical Center, Los Angeles.

Sponsored by the Maryland Asthma And Allergy Society.

"**What To Do With The Opposite Breast**" - *Elmer Hoffman,* M.D., Baltimore, *Edward Lewison,* M.D., Baltimore and *John Bostwick, III* M.D., Professor of Surgery, Division of Plastic Surgery, Emory University School of Medicine, Atlanta.

Sponsored by the Maryland Breast Society.

"**Physician Quality Assurance Board**" - *Speaker(s) to be announced.*

"**Rheumatologic Problem Solving In Daily Practice: Three Illustrative Cases**" - *Peter A. Holt,* M.D., Baltimore; *Mary Betty Stevens,* M.D., Baltimore and *Carol A. Ziminski,* M.D., Baltimore.

Sponsored by the Maryland Society For Rheumatic Diseases.

4:00 p.m.

"**Are Arterial Blood Gases Obsolete: Reflections On The Evolution Of Patient Monitoring**" - *John W. Severinghaus,* M.D., Professor of Anesthesiology, Anesthesia Research Center, San Francisco.

Sponsored by the Maryland Society of Anesthesiologists and the Baltimore Critical Care Society.

"**Issues Of Transferring Patients From Nursing Homes To Hospitals**" - *Mark Waymack,* Ph.D., Evanston, Illinois.

Sponsored by the Med Chi Long Term Care and Geriatrics Committee

"**Stroke In The Young**" - *Robert G. Hart,* M.D., M.P.H., Moderator, *Steven J. Kittner,* M.D., M.P.H.

Sponsored by the American Heart Association, Maryland Affiliate, Inc., Research, Medical and Community Programs Department.

"**Clinical Application Of 201 Thallium (STECT) Imaging In Myocardial Disease**" - *Jamshid Maddahi,* M.D., Associate Professor of Medicine, UCLA School Of Medicine and Director Of Nuclear Cardiology Research, Cedars-Sinai Medical Center, Los Angeles.

Sponsored by the Maryland Society Of Nuclear Medicine.

"Pain And Performance - Musculoskeletal And Neurologic Problems In The Performing Arts" - *Yasoma Challenor,* M.D., Professor, Department of Rehabilitation Medicine, Columbia University, New York.

Sponsored by the Maryland Society of Physical and Rehabilitation Medicine.

FRIDAY, APRIL 14, 1989

8:45 a.m. - 12:15 p.m.

"ICU Management: A Cooperative Effort" - *Rhonda Fishel,* M.D.,Assistant Surgeon-In Chief, Sinai Hospital, Baltimore.

"Update On Cataract Surgery" - *Charles Castoro,* M.D., Private Practice, Baltimore.

"Surgery For Carcinoma Of The Pancreas" -*Anthony L. Imbembo,* M.D., Surgeon-In-Chief, University of Maryland Hospital, Baltimore

"Early Reconstruction For Breast Cancer" - *Lauren Schnaper,* M.D., Department of Surgery, University of Maryland Hospital, Baltimore

"Current Management Of Esophageal Varices" - *Robert Bailey,* M.D., Department of Surgery, University of Maryland Hospital, Baltimore

"Adrenal Endocrine Update" - *Donald S. Gann,* M.D., Department of Surgery, University of Maryland Hospital, Baltimore

Sponsored by the Maryland Chapter of the American College Of Surgeons.

8:45 a.m.

"Alzheimer's Disease: Caring After The Diagnosis" - *Paul S. Rhodes,* M.D., Crofton, Md.

Sponsored by the Alzheimer's Association, Baltimore Central Maryland Chapter.

"Small Area Variations: Large Consequences" - *Peter E. Dans,* M.D., Office of Medical Practice Evaluation, Johns Hopkins Hospital, Baltimore.

Sponsored by the Med Chi Committee On Small Area Variation.

"Reanimation of the Paralyzed Face Without the Facial Nerve" - *Mark May,* M.D., F.A.C.S., Clinical Professor, Department of Otolaryngology Head and Neck Surgery, University of Pittsburgh School of Medicine.

Sponsored by the Maryland Society of Otolaryngology Head and Neck Surgery.

"Next Button Please - A Glimpse At Computer Assisted Teaching Techniques For the 1990s" - *H. G. Oster,* M.D., Baltimore and *Darrell Rigel,* M.D., Clinical Assistant Professor of Dermatology, New York University Medical Center, New York.

Sponsored by the Med Chi Continuing Medical Education Review Committee.

"Emergency Medicine: Character Of An Evolving Specialty" - *Robert K. Anzinger,* M.D., F.A.C.E.P., Riverforest, Illinois, President-Elect, American College of Emergency Physicians.

Sponsored by the Maryland Chapter, American College of Emergency Physicians.

10:45 a.m.

"Coping With Stress In The Physician's Family" - *Penelope Ziegler,* M.D., Medical Director, Bethany Center, Bethany , Pennsylvania.

Sponsored by the Med Chi Committee On Physician Rehabilitation.

"Orthopedics Overseas" - *Kirby Von Kessler,* M.D., Baltimore, and *J. David Thompson,* M.D., Baltimore.

Sponsored by the Maryland Orthopaedic Society.

"Photophoresis and T Cell Lymphomas" - *Richard L. Edelson,* M.D., Professor and Chairman, Department of Dermatology, Yale University School of Medicine.

Sponsored by the Maryland Dermatologic Society.

"What's New In Carpal Tunnel Surgery?" - *Neal Green,* M.D., Ft. Washington, Maryland.

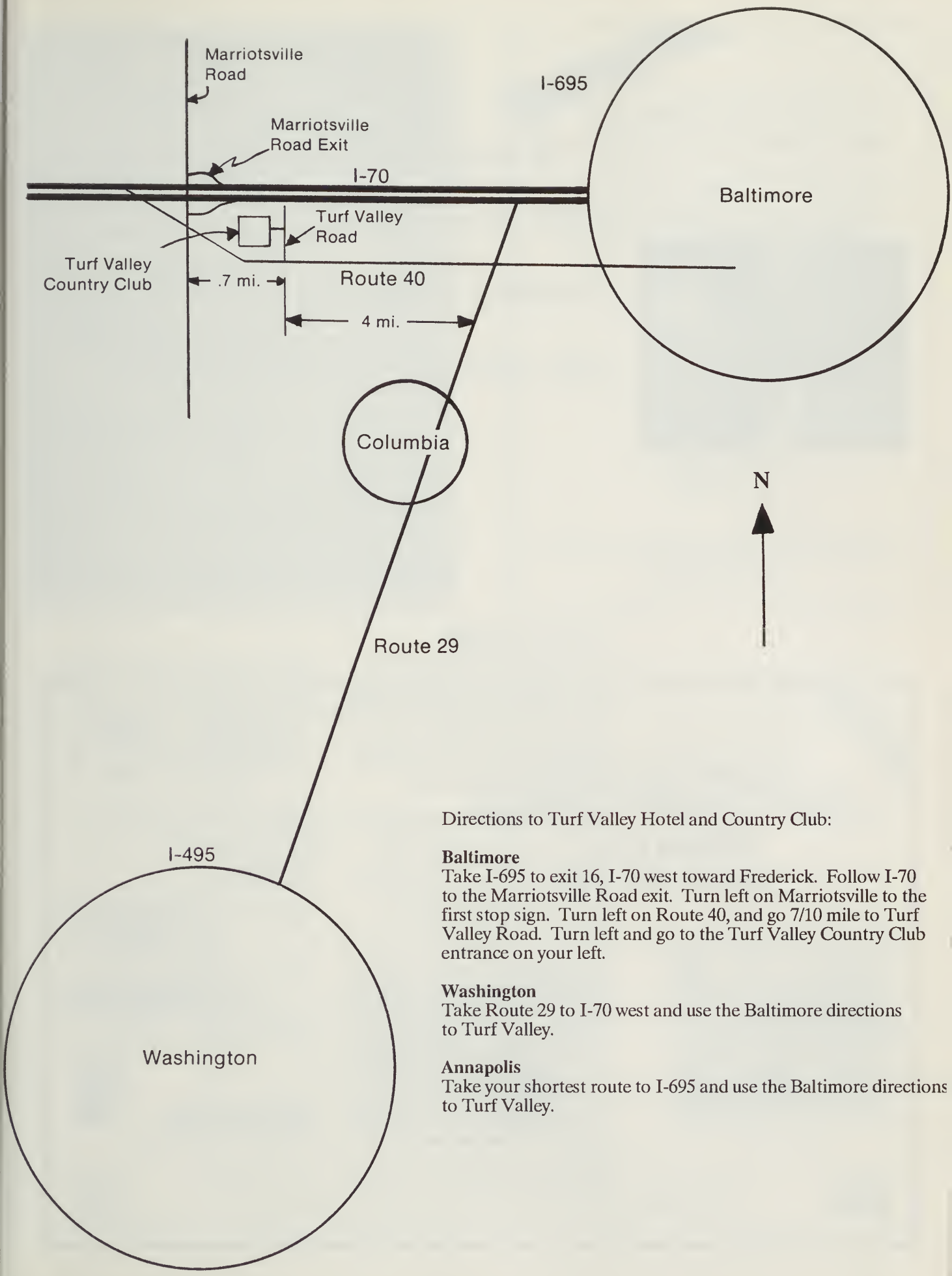
Sponsored by the Maryland Society of Orthopedic, Rehabilitation and Occupational Medicine Specialists.

"Ophthalmological Problems Common To All Physicians" - *George Weinstein,* M.D., Professor and Chairman, Department of Ophthalmology, West Virginia University, Morgantown, West Virginia, and *Allan D. Jensen,* M.D., Chief of Ophthalmology, Union Memorial Hospital, Baltimore.

Sponsored by the Maryland Society Of Eye Physicians And Surgeons and the Maryland Academy of Family Physicians.

"AIDS, Ethics, The Duty To Warn And Refusal To Treat" - Moderator, *W. Bradley King,* M.D. *Gillian Van Blerk,* M.D., Director, AIDS Administration, *John M. Henderson,* M.D., Forensic Psychiatrist, Baltimore, *Alfred L. Scanlan, Jr.,* Esq. and *Bernard A. Cook,* Esq., Levan, Schimel, Richman and Belman, Columbia.

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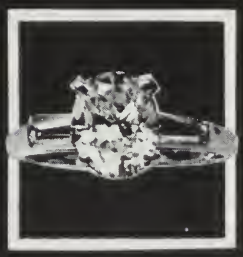
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Contraindications: VASOTEC® (Enalapril Maleate, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See OOSAGE ANO AOMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See OOSAGE ANO AOMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and OOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy—Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies in pregnant women. VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: Milk in lactating rats contains radioactivity following administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 298/ patients.

Hypertension: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

Heart Failure: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and OOSAGE ANO AOMINISTRATION), prostate hypertrophy.

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation ot therapy in 1.9% ot patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Dther (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) It the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Oosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose of enalapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Oosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart failure patients with hyponatremia (serum sodium <130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure,* WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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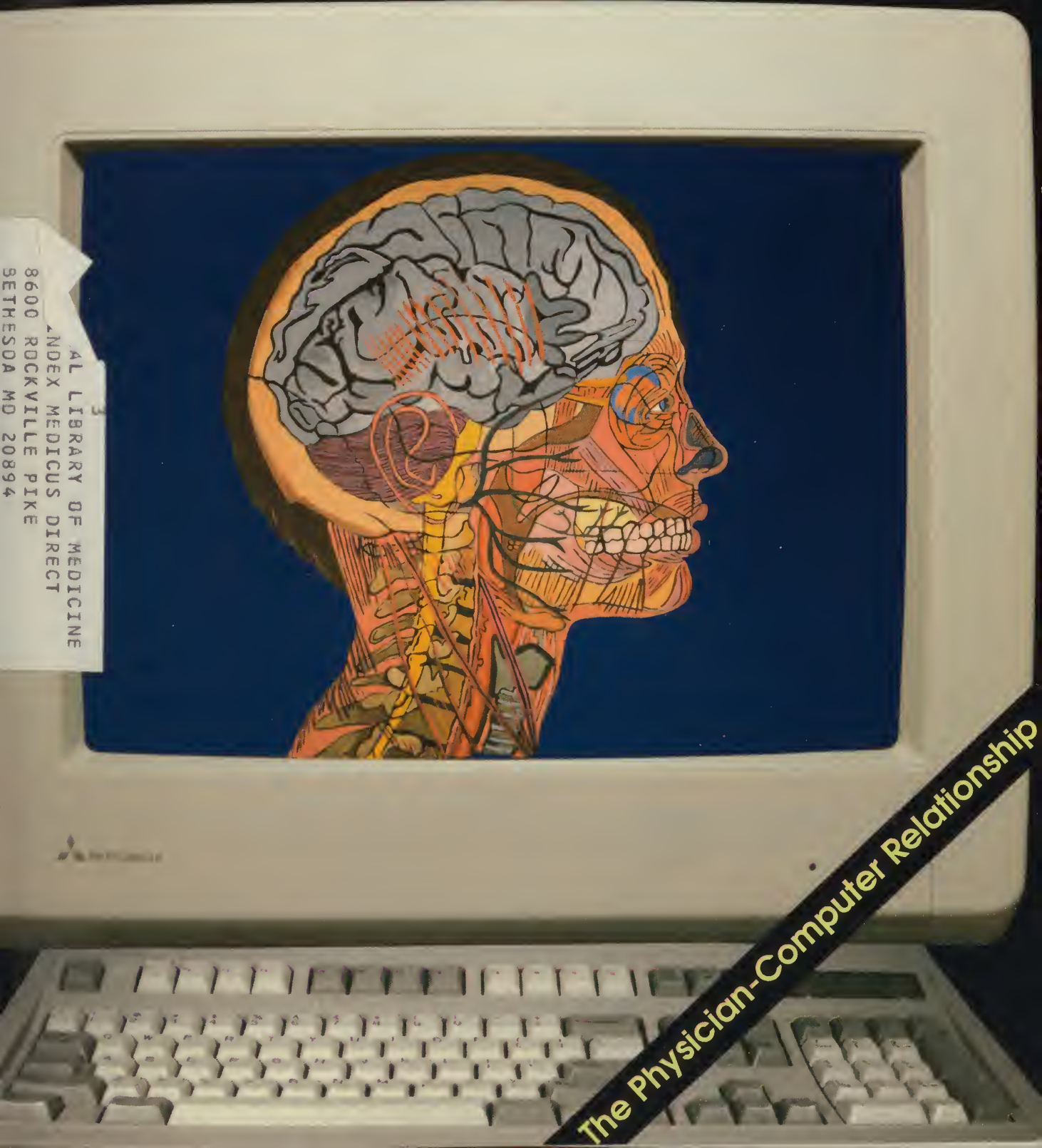
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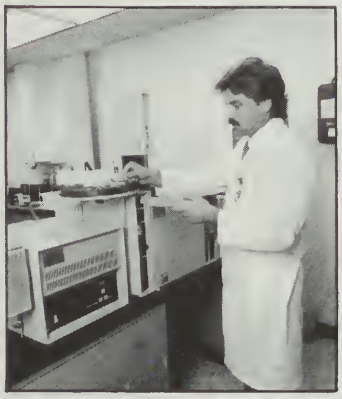
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The image on the computer screen represents the melding of computer and physician as partners in the everchanging world of computerized medical technology.

BRUNO MATTIELLO
Director of Computer Services
Medical and Chirurgical Faculty of Maryland

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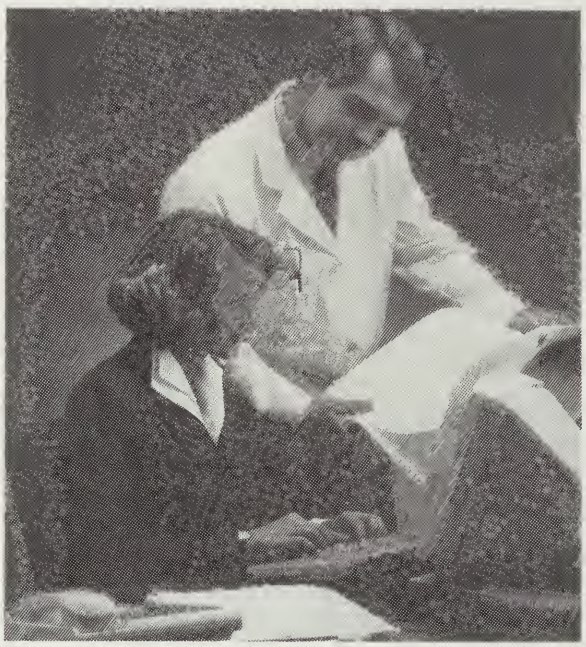
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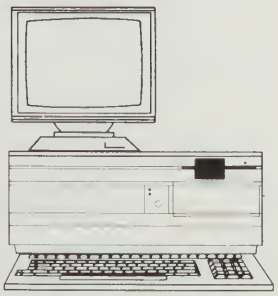
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MAY 1989

New ACIP Recommendations for Measles Outbreak Control: Implementation in Two Maryland High Schools

Since measles vaccine was introduced in 1963, the reported incidence of measles has decreased 99%, and indigenous measles transmission has been eliminated from most of the country. However, importations of measles are frequent and the risk of exposure still exists, particularly for young persons who attend high school or college or who travel abroad.

Two major types of outbreaks of measles have occurred recently in the United States: those among unvaccinated preschool aged children, including children younger than the recommended age for routine vaccination (i.e. 15 months); and those among vaccinated school aged children. Large outbreaks among unvaccinated preschool-aged children have occured in several inner-city areas. Many outbreaks in the United States have occurred among children in schools where vaccination levels are above 98%. Generally, attack rates in individual schools have been low (1% - 5%) and the calculated vaccine efficacy has been high. Primary vaccine failures have played a substantial role in transmission. In many of these outbreaks, children who had been vaccinated at 12-14 months of age had a higher attack rate than those vaccinated at older ages.

Because the majority of outbreaks are occurring in these age groups, the Immunization Practices Advisory Committee (ACIP) has recently revised the recommendations for measles control in two groups:

1. Geoghraphic Areas With Recurrent Measles Transmission Among Preschool Children.

The ACIP recommends that a routine two dose vaccination schedule for preschoolers be implemented in areas with recurrent measles transmission (i.e. counties with more than five reported cases among preschool aged children during each of the last five years). **Note: No counties in Maryland have reported 5 or more cases of measles in preschool children in each of the last 5 years.** The first dose of measles vaccine should be administered at age 9 months or at the first health care visit thereafter. Infants vaccinated before their first birthday should receive a second dose at or about 15 months of age. Single antigen (monovalent) measles vaccine should be used for infants < 1 year of age, and measles, mumps, and rubella (MMR) for persons vaccinated on or after the first birthday. Although some data suggest that children who do not respond to the first dose administered at a young age may have an altered immune response when revaccinated at an older age, there are no data to suggest that such children are not protected from measles.

2. Outbreak Control Strategies for School-Based Outbreaks.

Because of the prominent role that persons with primary vaccine failure are playing in measles transmission, the ACIP recommends the institution of some form of revaccination in outbreaks that occur in junior or senior high schools, colleges, universities, or other secondary institutions. In an outbreak, the ACIP recommends that, in affected schools as well as unaffected schools at risk of measles transmission from students in affected schools, all students and their siblings who received their most recent dose of measles vaccine before 1980 should be revaccinated. This date was selected for several reasons: 1) this strategy will capture almost all students vaccinated between 12 and 14 months of age, a group known to be at increased risk of primary vaccine failure, since the recommended

age for routine vaccination was changed from 12 to 15 months in 1976; 2) it may be easier to identify students by year of vaccination than age at vaccination; and 3) in some outbreak investigations, students vaccinated before 1978-1980 have been found to be at increased risk for measles. This is not felt to be due to waning immunity but rather to a higher rate of primary vaccine failure in persons vaccinated before that time. This higher risk may be due to different reasons, including less than optimal vaccine storage and handling or to the greater lability of the measles vaccine manufactured before a new stabilizer was used in 1979. While the exact date has not been determined, 1980 is a conservative cutoff. If all students vaccinated before 1980 cannot be revaccinated, then persons vaccinated before fifteen months of age should be targeted.

Recent Outbreaks

Between January 1, 1989 and March 20th 1989, nine states (California, Illinois, Ohio, Kansas, Missouri, New Jersey, North Carolina, Rhode Island, and Texas) and Puerto Rico had significant outbreaks in preschool children and in college aged persons. These outbreaks ranged from 15 - 1255 cases of measles. One outbreak of particular interest is presently occurring in Houston, Texas. As of 20 March 1989, 1255 cases have been reported in children and young adults. Approximately 20-25% of the cases have been hospitalized with complications and 5 deaths have occurred in children ranging in age from 13 months to 21 years.

Maryland Outbreaks

Recently, measles outbreaks have occurred in two Maryland high schools. In School #1 the source of the outbreak was a student who had traveled to Disney World, a major attraction for international tourists. The source of the outbreak in School #2 was a student who acquired measles while on a school trip to Italy. School #1 had two laboratory confirmed cases and School #2 had 4 cases, with at least one pending case as of 20 March 1989.

A review of all immunization records was conducted in each school by the health department staff. Each child was classified into one of three categories

- Category 1- Vaccinated prior to 15 months of age
- Category 2- Vaccinated after 15 months age but prior to 1980
- Category 3- Vaccinated after 15 months of age and after 1979.

Table 1 shows the results of the record review in the two outbreak schools.

In each school a modified version of the new recommendations for outbreak control measures for school-based outbreaks was implemented. Potentially susceptible students were defined as students in either Category 1 or Category 2. The following recommendations were made: Category 1 students were required to be revaccinated in order to continue to attend school; and Category 2 students were advised to be revaccinated but were not to be excluded from school if they were not revaccinated.

Immunization clinics were held at the schools and vaccine was offered to Category 1 and 2 students. Thirteen hundred twenty-two (1322) measles immunizations were given at School #1 and five hundred fifty-three (553) measles immunizations were given at School #2. Prompt epidemic control measures when the outbreak was first recognized prevented many more potential cases at School #1. School #2 is still under intensive surveillance for additional cases as of 20 March 1989.

Role of the Health Care Provider

Health care providers should suspect the diagnosis of measles when any patient presents with fever and a rash present. Any patient with

- Fever 101 Farenheit
- Generalized rash of 3 or more days duration, and
- One of the following: cough, coryza, conjunctivitis,

Table 1. Measles Vaccination Status of Students in Two Maryland High Schools

Vaccination Age or Date	School #1		School #2	
Prior to 15 Months of Age	757	(53.2%)	671	(67.9%)
After 15 Months but Prior to 1980	565	(39.7%)	250	(25.3%)
After 15 Months and After 1980	84	(5.9%)	45	(4.6%)
Medical Deferrals	17	(1.2%)	21	(2.1%)
Total	1423	(100.0%)	987	(100.0%)

should be reported immediately to the Local or State Health Department. The health department will initiate contact investigation and implement outbreak control measures. Serologic confirmation of infection should be sought. An acute specimen can be sent for IgM antibody testing to the Maryland Laboratories Administration. Paired acute and convalescent specimens showing a diagnostic rise will also confirm the diagnosis.

References: ACIP. Measles Prevention: Supplementary Statement. MMWR,1989; 38:11-14.

Vibrio vulnificus Advisory:

Have you warned those at risk to avoid sources of exposure?

Patients with underlying liver disease and other chronic medical conditions may be at increased risk of foodborne illness and its complications caused by a variety of organisms in raw or undercooked meat, fish, poultry, shellfish, mollusk or egg products. Recent reports have documented the pathogenicity of Vibrio vulnificus for these persons. It is important that those at risk be made aware of the danger of eating raw mollusks and shellfish, especially oysters, and of exposure to sea water in order to avoid V. vulnificus infections.

The Organism

Vibrio vulnificus is a halophilic (salt-loving) gram negative coccoid marine *Vibrio* that resembles *V. parahaemolyticus*. It can exist in a virulent form encapsulated by an acid polysaccharide capsule or in a less virulent unencapsulated form. Growth of the encapsulated form is enhanced by iron, and the organism can use the iron of hemoglobin, haptoglobin, or transferrin if it is 100% saturated with iron. The organism also produces enzymes which may enhance its invasiveness (1).

Sources

Vibrio vulnificus is ubiquitous in salt water marine environments of the Gulf of Mexico and Atlantic and Pacific coastal waters. Neither its presence nor growth is associated with fecal contamination of water; rather, it is free living and its growth is dependent upon proper temperature and salinity.

Filter feeding mollusks, such as oysters and clams, concentrate *V. vulnificus* in their tissues. The organism has been isolated from mollusks and also from the haemolymph of crabs. The organism may multiply in mollusks and shellfish during shipment and lead to increased risk during warm months.

Risk factors

Although all individuals who consume raw or inadequately cooked mollusks or shellfish may be at risk of acquiring *Vibrio* infections, individuals with liver disease (including cirrhosis and hemochromatosis), or chronic diseases such as diabetes, alcoholism, cancer, renal disease, gastrointestinal disease (including inflammatory bowel disease or achlorhydria), steroid treatment, and immunosuppressive disorders appear to be as highest risk of invasive and fatal *V. vulnificus* disease.

Incubation Period

A median incubation period of 18 hours has been reported for septicemia or gastrointestinal illness associated with consumption of raw oysters.

Clinical features

Three clinical syndromes have been associated with *V. vulnificus:*

1. Primary septicemia: occurs with fever, hypotension or mental status changes (obtundation, disorientation or lethargy). Secondary cutaneous lesions, including ecchymosis, bullae, or cellulitis, generally develop within 24 hours. In a study of 38 patients with *V. vulnificus* septicemia from Florida (2), 95% had liver disease or other underlying chronic disease (see above). Thirty seven (97%) were hospitalized, and 55% died; 92% had eaten raw oysters within seven days before becoming ill.

2. Wound infections: In the same study from Florida, 17 patients were studied who had

V. vulnificus wound infections. Thirteen (76%) received their wounds while having direct contact with sea water including fishing injuries, lacerations with knives, puncture wounds by crabs, boating injuries, laceration while wading, or had contact of a pre-existing wound with seawater. Twelve (71%) were hospitalized and 24% died. Six (35.3%) had underlying liver or chronic disease.

3. Gastrointestinal illness: Seven patients in the above study had gastroenteritis with vomiting, diarrhea, and abdominal pain, and had *V. vulnificus* isolated from their feces. Six were hospitalized but none died; two had underlying chronic diseases. Of note, five also had other enteric pathogens isolated, so the etiology of the gastroenteritis was not necessarily *V. vulnificus.*

Most infections have been reported during the warm months of the year.

Treatment

Tetracycline is the drug of choice for treating experimental *V. vulnificus* infections in mice. Use of tetracycline (or possibly chloramphenicol) and an aminoglycoside has been advocated, although in vitro, an MIC of gentamicin of 8ug/mL was required to inhibit the growth of 90% of *V. vulnificus* isolates tested (3).

Prevention and Intervention

- Physicians should advise patients with liver disease, alcoholism, immunosuppression, renal disease, cancer, or chronic gastrointestinal disease to:
  - Eliminate raw or undercooked mollusks (especially oysters), and shellfish from their diets.
  - Avoid marine injuries, and exercise caution when exposed to seawater or to objects or shellfish that have been exposed to seawater.
- Suspect *V. vulnificus* in a febrile person with liver disease, or underlying chronic medical illness who had recent exposure to marine water or who consumed raw oysters, or other mollusks or shellfish.
- Culture patient specimens for *Vibrio* species.
- Treat as if the infection may be *V. vulnificus*; early treatment may lessen mortality.
- Advise persons at high risk to review their diets and to consider that any raw or undercooked mollusks, shellfish, fish, meat, or egg products may be associated with increased risk of foodborne illness.
- Report cases to the Local Health Department. A questionnaire regarding source of infection should be administered. In cooperation with the Food and Drug Administration (FDA), mollusk and shellfish exposures are traced back to the growing waters.

References: (1) Morris JG. Annals of Int Med. 1988;109:261-3. (2) Klontz, et al. Annals of Int Med.1988;109;318-32. (3) Morris JG. J Antimicrob Chemother. 1985;28:442-5

Detection of Rickettsial antigen in Skin Biopsy Specimens of Patients with Rocky Mountain Spotted Fever

J. Stephen Dumler, M.D., of the Department of Pathology, Johns Hopkins Hospital, is conducting a prospective study to evaluate a new immunoperoxidase technique for visualizing *Rickettsia rickettsii* organisms in skin biopsy specimens from patients suspected of having Rocky Mountain spotted fever. Preliminary results indicate that the immunoperoxidase technique may be superior to immunofluorescence in identifying rickettsiae in tissue, and just as rapid. He is seeking skin biopsy specimens from patients in whom the diagnosis of RMSF is suspected.

Specimens sought:

A punch biopsy specimen ($\geq$ 3 mm) of a petechial or rash lesion from a patient suspected of having RMSF is needed.

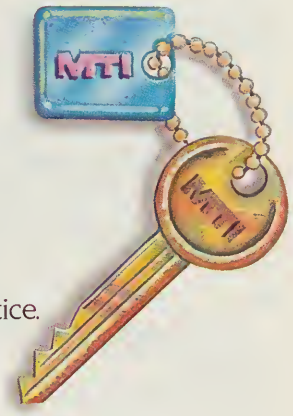
Preferably tissue should be frozen, or formalin fixed and embedded in paraffin; alternately, pre-cut frozen sections or paraffin sections on glass slides (a minimum of four sections) are acceptable.

Procedures:

When a case of RMSF is suspected and a biopsy has been obtained, call Dr. Jagdish Patel at the Department of Health and Mental Hygiene, 301-225-6152, to obtain details for specimen handling.

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Computer Bytes initiates a new *MMJ* department designed to answer your questions about how to get the most out of your computer. Please address questions to Bruno Mattiello, Director of Computer Services, 1211 Cathedral Street, Baltimore, MD 21201. (Please include your phone number.)

Since this is our first appearance in *MMJ* we begin by giving you a few tips that have been learned the hard way over the years; they might just save you some time and frustration.

Q. What is the AUTOEXEC.BAT file and how does it work?

A. AUTOEXEC is short for automatic execution. This means that a desired set of start-up procedures can be carried out automatically by DOS (disk operating system) referring to the parts of your computer (such as the keyboard, or CON, for console) as devices, each time the computer is turned on. For example, to create an AUTOEXEC.BAT file on drive C that prompts you to enter the date and time and then automatically starts-up your word processing package, type the following:

C copy CON AUTOEXEC.BAT

DATE
(will ask you the date)
TIME
(will ask you the time)
CLS
(will clear the screen)
CD\WORD, for example,
(changes to WordPerfect directory)
WP
(executes wp)
^ Z (which is the function key F6, or hold down the Control Key and press Z)

After you press "Enter" DOS acknowledges that AUTOEXEC.BAT is a copied file by stating "1 File(s) copied."

You are creating a file by telling DOS to copy what you type from the keyboard onto a file in drive C.

Q. How many files can you store on the root directory of a double-sided double-density 360K floppy diskette?

A. You can store up to 64 files in the root directory of a single-sided floppy disk (if you can still find one), and 112 files in the root directory of a two sided 360K floppy. The root directory of the 1.2 megabyte floppy holds 224, and there is space on most hard disk root directories to store 512 files.

If you have ever encountered the "File creation" error while trying to save, it is because the root directory has reached its limit. The best way to avoid this is to create a subdirectory.

The number of directory entries in a subdirectory is limited only by available space on the disk: each subdirectory is a special kind of file that keeps track of other files. Because the subdirectory itself is a file, it can grow in the same way a data file grows when you add information to it. To organize your hard disk properly, don't put any other files on your root directory other than the two hidden system files, AUTOEXEC.BAT, CONFIG.SYS and COMMAND.COM.

Q. What is the CONFIG.SYS file and how does it work?

A. Your system will run without CONFIG.SYS file, but it will work better with one. Many programs demand one. If you are using a database management program that handles more than eight open files at once, you have to prepare DOS for juggling the extra files with a Files = command in CONFIG.SYS. CONFIG.SYS really shines in increasing disk-read buffers, loading device drivers, and adding logical drivers to your system.

Buffers are chunks of memory set aside to store the data your computer most recently read from or wrote to your disk, although some buffers do not store written data.

CONFIG.SYS is also where you instruct your system to load device drivers such as the DOS VDISK.SYS virtual disk (RAM DISK) or drivers to link your basic hardware with mice, external storage devices, or giant hard disks.

In CONFIG.SYS is where you tell DOS how many drivers you are going to want to use. When you boot up, DOS assumes a maximum of five drives (A: through E:). If you use the SUBST command to tell your system to treat a subdirectory like a disk drive to get around PATH or environment limitations, you will have to prearrange it with a LASTDRIVE = CONFIG.SYS command. An example of a CONFIG.SYS file is:

CONFIG.SYS
FILES = 20
BUFFERS = 15
DEVICE = VDISK.SYS 360
DEVICE = ANSI.SYS
DEVICE - MOUSE.SYS

Q. What is the average life of a hard disk?

A. Hard disks have an estimated life of 10,000 hours. Hard disks that use the SCSI (Small Computer Systems Interface) standard, which is faster and more reliable, can operate for 50,000 hours.

The most critical time for a hard disk is during the boot-up process. Avoid any sudden, jerking movements on your desk; you should not slam down objects or kick the desk. Another way to protect your hard disk is to use software that will identify and repair damaged sectors. It is also a good idea to run CHKDSK from your DOS directory from time to time to monitor the status of your hard disk.

Q. I am currently running under DOS 3.0. I would like to upgrade to a later version.

A. Each new release of DOS, starting with 2.0, keeps track of its version number internally. The version number of the operating system you are using can be displayed using the VER command. To transfer a newer version of DOS to your hard disk, execute these commands:

1. Reboot your system using the new version of DOS.
2. ASYS C:
This transfers the new system files to the fixed disk.
3. To replace existing DOSs files on your fixed disk, type the following and press <ENTER>:
REPLACE A:*.* C:\/S/R
4. To add the new DOS files, type the following and press<ENTER>:
REPLACE a:** c:\DOS /a ■

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Physician Placement Services

The Medical and Chirurgical Faculty of the State of Maryland maintains a Placement Service for the convenience of Maryland physicians, hospitals and communities in search of candidates for positions available in our state. A detailed description of such opportunities should be forwarded to:

Physician Placement Service.
1211 Cathedral St., Baltimore, MD 21201
Telephone 1-301-539-0872.

Physicians wishing to locate in Maryland are invited to submit a resume to be kept on file with the *Physician Placement Service.* Candidates are requested to inform the Faculty when they are no longer available for consideration for opportunities which might be available in Maryland.

Journal announcements on the Classified Advertising page for Physician Placement Service are charged at the regular Classified Advertising rate.

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Executive Director's Newsletter

May 1989

New Med Chi President

On April 14, 1989, Raymond M. Atkins MD became Med Chi's President for 1989-1990 at the Faculty's 191st Annual Meeting. Dr. Atkins, who looks forward to an active and successful year as president, stated in the April issue of the *Maryland Medical Journal*, that his primary goal is to strengthen and increase the Faculty's membership.

ICD-9-CM Coding Workshop

Med Chi and the Medical Mutual Liability Insurance Society of Maryland will present an ICD-9-CM coding workshop at several locations in Maryland during May and June. This workshop is designed to educate physicians and their office staff on the proper use of ICD-9-CM coding; e.g., 4th and 5th digit specificity and use of V Codes. As of April 1, 1989, Maryland physicians were required to include ICD-9-CM codes on all Medicare Part B claims.

The dates and locations for the workshop are:

DATE	CITY	LOCATION	TIME
May 9, 1989	Hunt Valley	Medical Mutual Bldg.	4:30-9:30 pm
May 23,1989	Baltimore	Med Chi Bldg.	4:30-9:30 pm
June 6,1989	Salisbury	Sheraton	4:30-9:30 pm
June 19, 1989	Frederick	Holiday Inn	4:30-9:30 pm

The workshop is free; however, enrollment is limited. For more information, see the registration form on the following page or contact Betsy Newman at 539-0872 or 1-800-492-1056 in Maryland.

Mandated Medicare Assignment

On March 16, 1989 the Maryland House Environmental Matters Committee defeated House Bill #395, legislation that would have required all Maryland physicians to accept Medicare Assignment. Dr. Michael R. Dobridge, Med Chi President 1988-1989, testified against the bill on behalf of the Faculty. The Committee defeated the legislation by a 17-6 vote.

FAX Machine in Annapolis

During each Legislative session, communication between Med Chi, its component societies, physician membership, and the medical community is extremely important. In order to provide timely and accurate information on legislative actions, a FAX machine was installed at Med Chi's Annapolis Office: 301-974-8356. (Med Chi's Faculty Building FAX number is 301-547-0915).

Specialist Identifier

Physicians are reminded that they may not legally represent to the public, including in advertisements and the yellow pages, that they are a specialist in any field of medical practice unless identified as such by the Board of Physician Quality Assurance. Application for specialty designation is open to all licensed physicians in Maryland. If a physician is certified by the American Board of Medical Specialists, the identification is automatically given by the Board on confirmation of that credential. If not certified by the American Board of Medical Specialists, the physician must complete an application outlining specific training and experience in the requested specialty. Applications are referred to the Med Chi Committee on Specialist Identification for evaluation and recommendation to the Board. The criteria used for such evaluations were developed jointly by Med Chi and the Board and are set forth in administrative regulations having the force and effect of law. Applications may be obtained from the Board of Physician Quality Assurance by calling 301-225-5900.

Required Employer Health Insurance

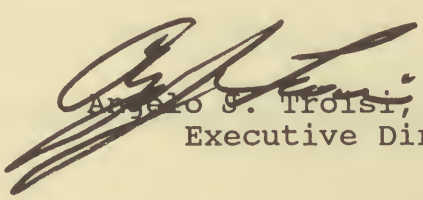
The AMA's Board of Trustees has endorsed a proposal that would require employer health insurance coverage. This proposal is an essential component of the AMA's plan to extend coverage to the 35-37 million Americans who lack adequate health insurance. The AMA's Council on Medical Service will present specifications for the proposed plan at the AMA's House of Delegates during its Annual Meeting in June.

Slideshows

At its Annual Meeting in April Med Chi presented *The History of Medicine in Maryland*, an educational slideshow on the origins of Maryland medicine. Med Chi has a variety of slideshows and videotapes available for loan to physicians and medical institutions on topics such as Membership Benefits, Registered Care Technologists, and Music and Medicine. For more information on Med Chi slideshows and videotapes contact Betsy Newman at 539-0872 or 1-800-492-1056 in Maryland.

Real-Time Monitors

Effective March 1, 1989 BC/BS of Maryland will provide benefits for ambulatory ECG monitoring, including Real-Time technology with full disclosure capabilities. Dr. Alevizatos, Chairman of Med Chi's Third Party Liaison Committee has worked extensively with BC/BS to help re-establish this coverage.



Angelo S. Troisi, FACHE
Executive Director

Registration form "Essentials of Accurate Coding"
(print or type)

Name_____

Address_____

City_____State_____Zip_____Phone_____

Please indicate date and location you wish to attend

Date:_____Location:_____

Please return completed registration form to:
MEDICAL MUTUAL 225 International Circle Hunt Valley, Maryland 21031

"Essentials of Accurate Coding"

An ICD-9-CM coding workshop presented by the Medical Mutual Liability Insurance Society of Maryland and the Medical and Chirurgical Faculty of Maryland.

As of April 1, 1989, the Medicare Catastrophic Coverage Act of 1988 requires the reporting of diagnostic codes on each request for payment under Part B for services rendered by physicians.

This new requirement will result in an expansion of the existing ICD-9-CM coding requirements.

The objective of these workshops is to provide education to physicians and their office staff in proper ICD-9-CM coding; e.g. 4th and 5th digit specificity and use of V Codes.

DATE	CITY	LOCATION	TIME
May 9, 1989	Hunt Valley	Medical Mutual Bldg.	4:30-9:30 pm
May 23, 1989	Baltimore	Med. Chi. Bldg.	4:30-9:30 pm
June 6, 1989	Salisbury	Sheraton	4:30-9:30 pm
June 19, 1989	Frederick	Holiday Inn	4:30-9:30 pm

General Information

Who should attend: Physicians and Medical Office Personnel
Confirmations: Confirmations will be mailed approximately 10 days prior to the scheduled meeting date.
Attendance Policy: We reserve the right to cancel or postpone meetings due to inclement weather or insufficient enrollment.
Registration Fee: For more information contact: Natalie Harper at (301) 785-0050 Ext. 268.

It will be necessary to **bring your set of ICD-9-CM Code books, Volumes 1 and 2.** Specific addresses and reminders of each session will be mailed approximately 10 days prior to each meeting date. All sessions are free for Maryland Physicians and their employees

USING GUIDES TO THE EVALUATION OF PERMANENT IMPAIRMENT

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Saturday, June 10, 1989
Stouffer Harborplace Hotel, Baltimore, MD

This all day seminar will instruct users of the AMA's *Guides to the Evaluation of Permanent Impairment* -- physicians, attorneys, insurance administrators and others -- how to conduct impairment evaluations and how to understand the new clinical concepts introduced in the *Guides* latest edition. Seminar speakers are major contributors to the *Guides*.

After attending this seminar, you will have:

- An understanding of the validity of the *Guides*
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Register NOW, space is limited to 200 persons.

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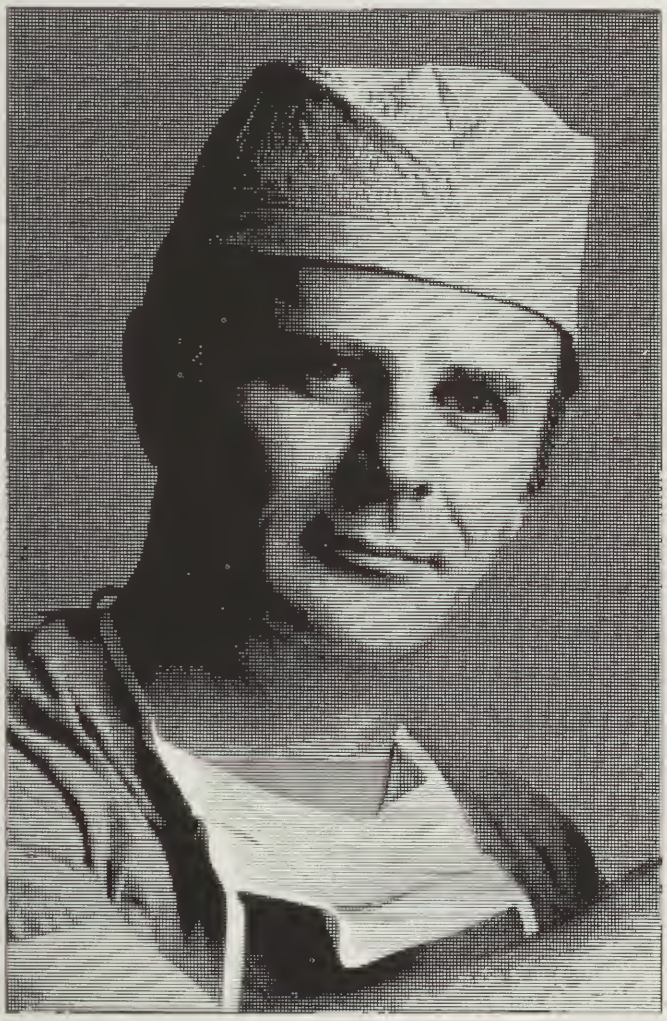
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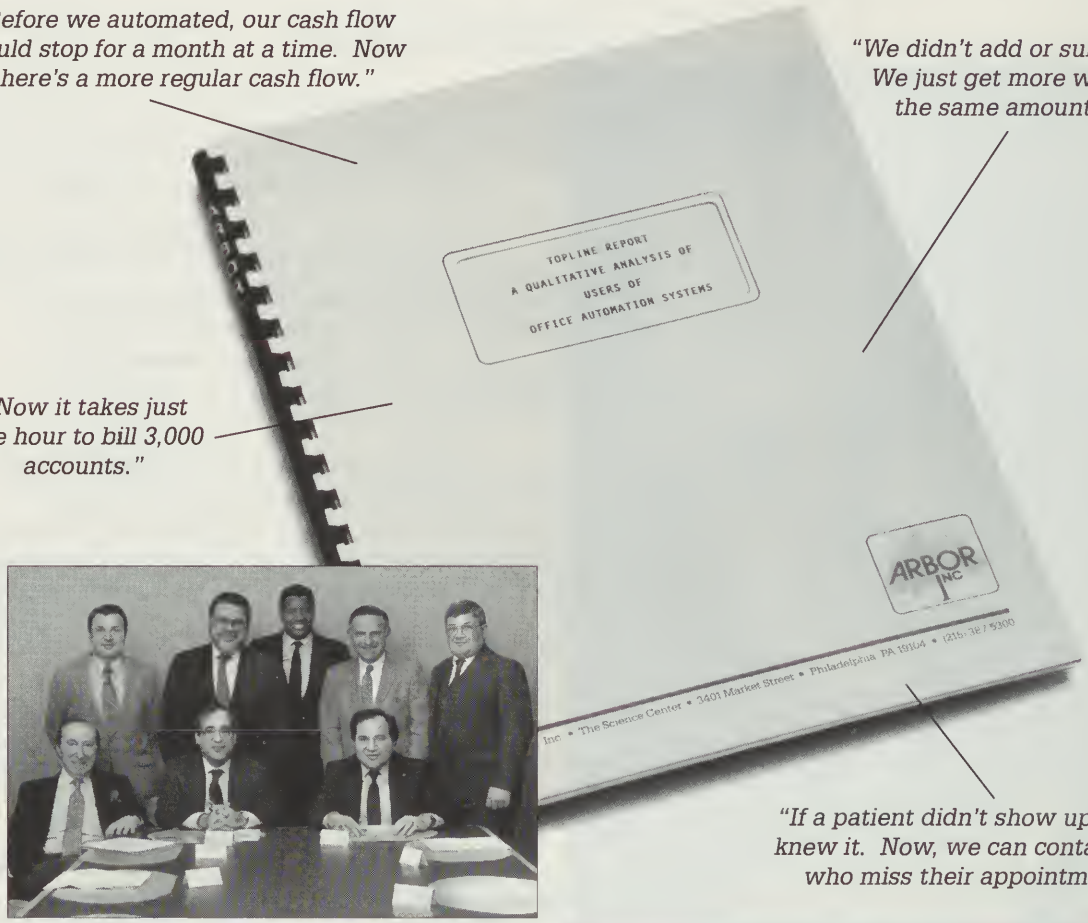
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A Review of Available Smoking Cessation Methods, 1989: Part II

Mark T. Godenick MD, MPH

"It's not hard to stop smoking, I've done it a thousand times," quipped Mark Twain. It is important that physicians realize how difficult it is for a patient to stop smoking and must not be discouraged by a "low success rate" and neglect to recommend to patients that they stop. Even the success of a few patients is worthwhile. Here are some smoking cessation methods that physicians may wish to incorporate into their practices.

Brief Physician Office Counseling

The physician can have a tremendous influence on a patient's health behavior. A two-minute emphasis on abstinence can lead to a 5 percent one-year quit rate.[1] An example of a two-minute approach can be found in the HBP Commentary in the *Maryland Medical Journal*, December 1986. Specific action is recommended in a matter-of-fact manner. Another excellent aid for office use is the American Academy of Family Practice Stop Smoking Kit.[2] Two excellent publications of the National Institutes of Health, "Clinical Opportunities for Smoking Intervention: A Guide for the Busy Physician" and "The Physicians's Guide: How to Help Your Hypertensive Patients Stop Smoking" are also available.[3,4]

Self-help Methods

Self-help methods are readily available, although it is unknown how many people take advantage of them. Few studies have evaluated the self-help books and quit kits that are available. It is known is that if the physician recommends smoking cessation, and follows-up this recommendation, self-help methods are optimized. The table shows a listing of where to obtain these materials. Along with minimal physician effort these simple brochures can give a success rate of between 3 percent and 15 percent. Materials only have to be available for your patients and used regularly.

Mass Media Programs

The best known mass media program advocating smoking cessation in the United States is the American Cancer Society's "Great American Smokeout"(GAS). This is a form of counteradvertising. A study that examined the long-term effects of the GAS estimated that about 1.5 percent of smokers who participated stopped smoking for at least one year.[5] Flay, in his excellent book evaluating 56 mass media programs worldwide notes that in general, the prevalence of continuous nonsmoking at follow-up is highest in the category of television plus print plus community support (11 percent), next highest is the television plus print method (8 percent), and least effective with television alone (about 4 percent).[6] Mass media programs are difficult to evaluate. The smoking cessation rates are self-reported by participants who are self-selected. Other antismoking events take place concurrently, and it is difficult to ascribe reduction in smoking to the mass media event alone. However it appears that quality counteradvertising can provide an audience with effective information concerning smoking cessation.

Acupuncture

Nasopuncture and auriculopuncture are the two main methods of acupuncture for treating patients who smoke. There are few published studies on the efficacy of acupuncture, and most of these are methodologically flawed. Schwartz, in a review of these studies concludes that there is no evidence that acupuncture relieves withdrawal symptoms or promotes smoking cessation: "Acupuncture may act as a placebo procedure to help the smoker handle the addictive component of smoking." If acupuncture is chosen by a patient as the method of choice, the physician may wish to recommend an alternative method.[7]

Table. Self-help Booklets

A. U.S. Office on Smoking and Health (301-443-1690)
   1. Smoking and Health Bulletin
   2. A Physician Talks About Smoking: A Slide Presentation
   3. The Health Consequences of Smoking. The Surgeon General's Reports
   4. State and Local Smoking Cessation Programs, 1987

B. National Cancer Institute, Office of Cancer Communications (800-4-CANCER or 301-496-6792)
   1. Quit for Good Kit
   2. Review and Evaluation of Smoking Cessation Methods
   3. Clearing the Air (pamphlet available in Spanish)

C. American Cancer Society (Local Organization)
   1. Smart Move
   2. A Seven Day Quitters Guide

D. American Lung Association (Local Organization)
   1. Freedom from Smoking in 20 Days (cessation guide)
   2. A Lifetime of Freedom from Smoking (maintenance guide)
   3. In Control (home video)
   4. Freedom from Smoking for You and Your Baby

E. American Heart Association (Local Organization)
   1. Calling It Quits (pamphlet)
   2. Smoking and Heart Disease (pamphlet)
   3. Children and Smoking: A Message to Parents (pamphlet)
   4. In Control (home video)

Hypnosis

Studies on the efficacy of hypnosis in smoking cessation are hard to evaluate because of poor study design or biased follow-up methods. All the study results are based on self-reports, and none are validated by physiological measurements. Spiegal had a response rate of only 45 percent of 616 patients and estimated a success rate of about 20 percent.[8] The most successful study ever reported for hypnosis therapy was conducted by Kline; he used a 12-hour group hypnotherapy session for groups of ten individuals who were previously unsuccessful using other methods. Of the 60 patients treated in this manner, 88 percent were successful quitters after one year.[9] The therapist's skill, experience, and charisma are important aspects of a successful hypnotic therapy session, and hypnosis seems to work well in the hands of a skilled therapist. Before referring patients to a hypnotherapist, the physician should review the methodology and inquire of the success rate.

Stop-Smoking Aids

A number of aids to quitting are available. None of these have published data to evaluate their value. The Food and Drug Administration is studying the effectiveness and safety of these products but has not yet issued guidelines concerning their sale. One example is a reusable filter system, "One Step at A Time," which reduces cigarette smoke tar, nicotine, and carbon monoxide levels gradually over time. A study conducted by Hymowitz, assigned 130 subjects to use graduated filters, placebo filters, or to quit on their own. One year follow-up results showed a 33 percent success rate of those quitting on their own, as compared to quit rates for users of graduated filters, 22 percent, and users of placebo filters, 12 percent.[10] Stop-smoking aids have no documented efficacy or safety, and an individual may be discouraged after unsuccessfully trying to use them. However, some patients who smoke may quit through the use of these aids.

Groups and Clinics

A survey conducted in 1985-1986 by the Office of Smoking and Health reported programs offered by 124 hospitals in 33 states, by 54 health plans or smoking clinics in 28 states, and by 94 health departments in 36 states.[11] Three nonprofit organizations are involved in smoking cessation. The Seventh-day Adventist Church sponsors the "Five-Day Plan to Stop Smoking" now renamed the "Breath-Free Plan to Stop Smoking." Over 14 million smokers in 150 countries have entered this program and its overall success rate is approximately 25 percent. The American Cancer Society has 58 divisions and over 3,000 local units that yearly reach millions of young people and adults with smoking cessation information and programs. The American Lung Association uses the booklet,"Freedom from Smoking Guide for Clinic Leaders," to conduct a self-contained program for smoking cessation. This has been used effectively in the community as well as the worksite. For a more comprehensive look at what these and other organizations are doing obtain the publication, "State and Local Programs on Smoking and Health."[11]

Behavioral Methods

Behavioral methods can be divided into two different categories, (1) aversive methods and (2) self-management techniques. Aversive methods include rapid smoking and may include mild electric shock. Self-management techniques include: nicotine fading, gradually reducing the number of cigarettes smoked over time, stimulus control, rearranging the environment of the smoker to make it more difficult to smoke, relaxation techniques, and contingency management, where a smoker contracts to quit smoking and receives a refund if successful.

An informative review of behavioral smoking cessation methods has been done by Abrams.[12] Hall used relaxation training, a review of the harmful effects and the benefits of stopping smoking, stimulus control, and relapse prevention to achieve a 52 percent one-year success rate.[13] Another successful program by Powell used stress management, negative smoking, relaxation, positive rewards, and self-control; it had a one-year success rate of about 50 percent.[14] Lando and McCullough used satiation, contingency management and group support; they achieved a 71 percent one-year success rate.[15]

Overall, the use of any one behavioral method alone is not very effective. Some of the best success rates have been achieved when a combination of aversive and self-management methods is used. It seems that aversive therapy has good success in the initiation of smoking cessation, but that continued success is better helped by self-management strategies.

Commercial Programs

Many commercial programs have gone out of business over the past decade although SmokeEnders and Schick are still operating. SmokeEnders, which uses various behavioral methods, reported a 40 percent quit rate in 167 respondents out of 553 persons who completed their program.[16] The Schick program includes mild electric shock. Of 832 clients treated in 1985, 327 were randomly selected and followed-up by telephone; a 13-month quit rate of 52 percent was noted.[17] Despite such extreme methods used in patients who smoke and who are motivated to quit (indicated by their willingness to pay for a program), only 40 percent to 50 percent are successful in quitting. This emphasizes how difficult a habit smoking is to break. In

looking at these high success rates one must keep in mind the inherent strong incentive to claim such high rates. Outside evaluations of these programs are rare. Success rates are self-reported based on those who complete the program and are not validated by accepted methods. Ongoing evaluation and monitoring of these programs would be best accomplished by outside evaluation of the programs using the "Standards for the Evaluation of Group Smoking Cessation Programs."[18]

Pharmacologic Aids

There have been over 60 controlled and uncontrolled clinical trials in over 20 countries concerning the efficacy of Nicorette gum in long-term smoking cessation programs and short-term withdrawal symptoms. An extensive review of the controlled studies by Fagerstrom is summarized here:[19] Of the 13 placebo-controlled trials found in the literature, all but one showed Nicorette more efficacious than the placebo gum. This ranged from 3 percent to 49 percent, 6 or 12 month success rates for Nicorette versus 2 percent to 37 percent in placebo-controlled studies. More than half achieved statistical significance, although many were small studies. The most impressive results were achieved in studies that were conducted in smoking cessation clinics using experienced psychologists as therapists. In the seven "no-gum control groups," where identical treatment was given to cases and controls except the use of nicorette gum, all but one found higher 6 or 12 months abstinence rates with the use of Nicorette gum. In the eight studies that compared Nicorette to other treatments (behavioral counseling plus aversive smoking, acupuncture, or skills training) as controls, the gum was about as good or better in all eight studies, with widely ranging results of 12 to 72 percent long-term success rate in the gum studies versus 8 to 76 percent in the other studies.

Clonidine, an alpha-2-agonist, has been shown in a small randomized placebo-controlled trial to ameliorate some of the short-term withdrawal symptoms.[20] The fact that clonidine reduces withdrawal symptoms does not necessarily mean it will be effective in aiding smoking cessation. One recent double-blind, randomized study by Glassman showed that in patients who smoke heavily and who had failed to stop smoking in previous attempts, those treated with oral clonidine had a 27 percent six-month success rate. This was verified by serum cotinine concentration.[21] These studies are small and there is imperative need for larger, longer-term follow-up studies before any formal recommendations for the use of clonidine in smoking cessation can be recommended. One big advantage of clonidine over Nicorette gum is that the person remains free of any nicotine in his or her blood stream.

Conclusion

Smoking is the number one cause of preventable morbidity and mortality in the United States today. The economic costs of smoking to our society are staggering. Smoking cessation is cost effective and worth promoting.

Brief physician office counseling may enable over 5 percent of patients who smoke to quit; combined with other methods this quit rate may be enhanced. Self-help methods are especially effective if recommended by the physician. Mass media programs (such as the Great American Smokeout) are worth promoting. Acupuncture seems to act more as a placebo procedure, and additional methods of smoking cessation should be recommended if this method to quit is chosen. Hypnotherapy may be successful, depending on the hypnotherapist. Group methods and commercial programs may be effective.

Behavioral methods if properly combined and used with motivated patients may help over 50 percent quit for at least one year. Pharmacologic aids if used correctly may also be quite effective.

It is important for every physician to suggest to patients who smoke the health benefits of smoking cessation and to have some therapeutic plan in mind to guide them to this goal. A smoke-free society by the year 2000 is a worthwhile endeavor.

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Dr. Godenick is a board certified Family Physician who is a senior resident in the Department of Epidemiology and Preventive Medicine, University of Maryland School of Medicine.

HBP Commentary is contributed by the Maryland Commission on High Blood Pressure and Related Cardiovascular Risk Factors, 4201 Patterson Ave., Baltimore, MD 21215-2299 (301-764-4795).
Editors: R. Patterson Russell MD, Past Chairman; Donald O. Fedder Pharm BS, DrPH; and Robert S. Epstein MD, MS, Assistant Professor of Epidemiology, University of Maryland School of Medicine.

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Doctor, my gynecologist recommends that I undergo a hysterectomy because of partial uterine prolapse and cystocele and rectocele. I am 48 years old and have had insulin-dependent diabetes mellitus for 20 years. The gynecologist wants to schedule the surgery, but I am concerned about the status of my diabetes and to which hospital I might go for the best care. What do you recommend?

Often people do not think about choosing a hospital until a crisis arises. You are fortunate to have the opportunity to think about hospital selection and to get properly prepared for your surgery.

Sometimes there is not much choice. Perhaps there is only one hospital in your community or your physician has privileges at only one hospital. The increasing use of health maintenance and preferred provider organizations also may narrow your hospital choices. Sometimes you are forced to go the hospital of your insurer. For special problems, your physician may refer you to another hospital.

Before choosing an insurance plan you should investigate the hospital and physician-care options available to you. Select an insurance program that permits you tho choose the hospital and the physicians. It is necessary to choose a gynecologist and a family practitioner/internist who practice at the hospital of your choice. If the plan does not suit your wishes, it is not the plan for you even though the annual premium might be less than others.

There are three basic types of hospitals:

1. City or county hospitals often provide services for low-income and indigent patients
2. Private or community nonprofit hospitals
3. Hospital teaching centers, usually related to a medical school.

All have advantages and disadvantages, and there is considerable overlapping. Community hospitals are the most common and, except for certain specialized care for which they may not be equipped, are most often used by people living nearby.

When choosing a hospital, consideration must be given to quality of care, friendliness and adequacy of staff, hospital reputation, and its ability to manage your particular problem, a diabetic patient requiring surgery. Your physician and surgeon will be most helpful in making these evaluations; they should know each other and have worked together in the management of other diabetic patients needing surgery.

After your family physician or internist has monitored your diabetic care and any other medical problems for as long as necessary, he or she should send the gynecologist a complete report including list of medications, diet plan, and laboratory reports. When the physicians have agreed on the adequacy of your medical status, they should schedule surgery at a time convenient for all three parties.

Ideally a diabetic patient should be the first surgical patient of the day, usually 7:30 or 8:00 a.m. and early in the week (Monday or Tuesday). The time of the day is important to avoid electrolyte problems, poor glycemic control, and anxiety on the part of the patient. If complications occur a few hours postoperatively, it is probable that a full staff will be available to manage the problem. The beginning of the week is important because neither the operating gynecologist nor the personal physician is apt to be signed out for the weekend to another physician until you are well on the way to recovery. It is true that not every patient can be this selective, but you are the most important patient you know, and you should try to arrange the best possible care for that patient.

Elective preparation for surgery should not be rushed. The patient should be in the best possible health and frame of mind before the procedure. If family or personal problems exist, they should be resolved if possible. You should provide your own blood for replacement should it be needed, and this requires discussion with the gynecologist. One should always have a will that is considered current before being admitted to a hospital for any purpose. Pulmonary embolic phenomena, stroke, and other complications can occur without warning. After such a catastrophe, everyone wishes events had not been taken so lightly.

Note: Management of the diabetic patient the day prior to and on the day of surgery will be outlined at another time.

DeWITT E. DeLAWTER MD
Editor ■

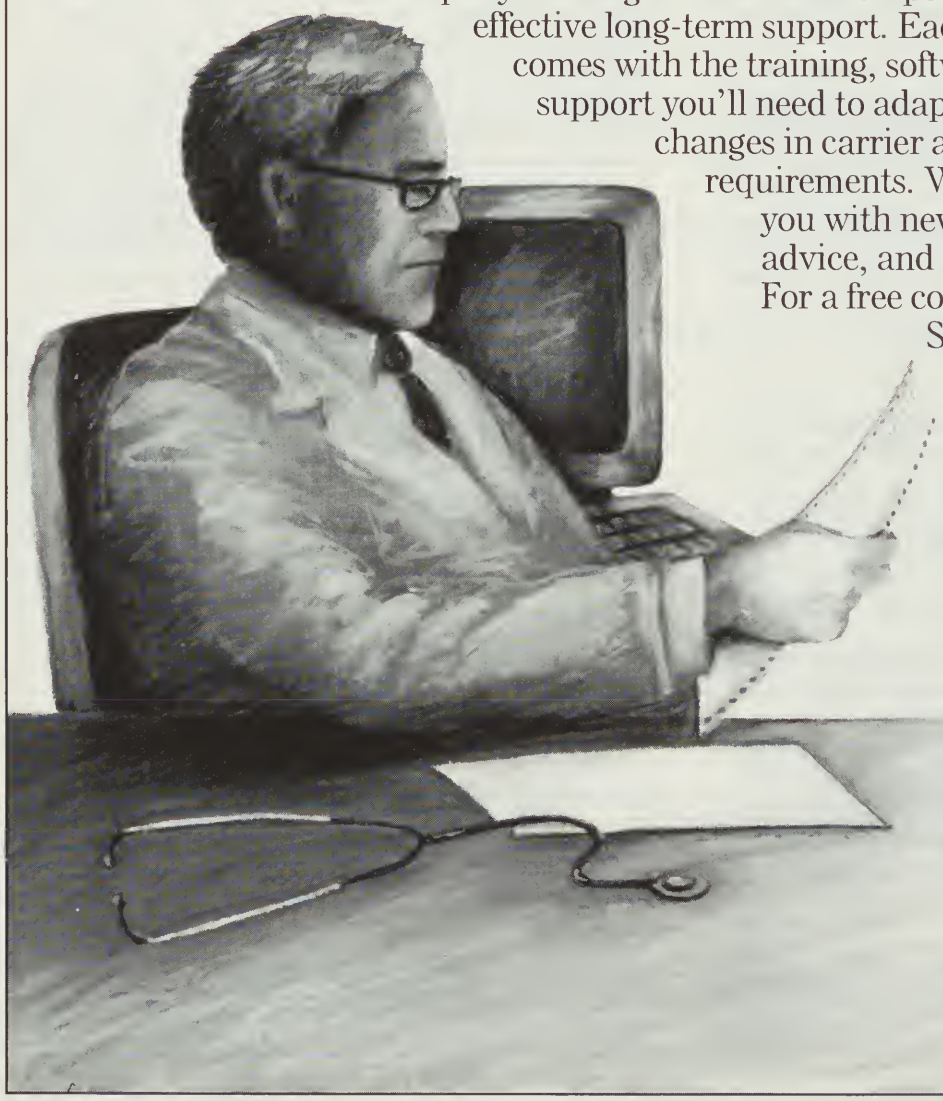
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The Physician - Computer Relationship

H. Gerald Oster MD

Dr. Oster is Chairman of Med Chi's Computers in Medicine Committee.

Perhaps you wonder why an entire issue of *MMJ* is being devoted to computers and medicine; the logic is simple. Technological advances in the art and science of medicine have occurred at an exponential rate, often outstripping the ability of the physician to use them properly. Computers can help fill this gap by assisting the physician in everyday practice as well as by acting as sophisticated research tools.

The computer does not have the cognitive and intellectual capacity of the human mind, but what it lacks in that area, it more than makes up in its abilty to rapidly store, retrieve, categorize, display, and manipulate huge amounts of data. The combination of a physician's mental abilities with the computer's processing power makes a formidable adversary for his enemies: the disease states we are trying to conquer. The computer also is capable of playing the role of man's best friend by assisting in other less dramatic ways such as saving time and making life easier by simplifying daily tasks and increasing the knowledge base.

There is no doubt that computers are and will be playing an increasingly important role in the activities of all health care providers. The leaders of your medical society recognize that fact and hope to assist in making the transition to the computer age less traumatic for physicians. The following articles are intended to yield information that will be useful to clinicians contemplating the use of computers in their professional and personal lives. ■

The Age of Telecommunications

H. Gerald Oster MD

Dr. Oster is in private practice specializing in internal medicine and is Chairman of Med Chi's Computers in Medicine Committee.

Dues for joining the information age consist of owning a personal computer, a modem, and a printer and having access to a standard phone line.

The scenario was all too familiar. Newsmen were gathered around the clanking teletype machine in a smoke-filled room awaiting the latest international developments coming over the AP Wire Service. Do you remember? If so, you have effectively dated yourself. The smoke-filled room has been replaced by the air-conditioned hall filled with the multitude of colorful terminal screens and lightning-fast printers chugging out world developments almost as fast as they occur. This is the world of telecommunications as we now know it; this is the information age!

Would you like to become a part of this expanding universe? You say that you are not technically inclined nor well-heeled enough to afford such luxury? Sorry, those excuses went out with the smoke-filled room. Any of us can expand our horizons far beyond our expectations from the comfort of our living rooms or offices with a minimum of technical expertise and with only a modest monetary outlay. The dues for joining the information age consist of ownership of a personal computer, a modem, and a printer and access to a standard phone line. Almost any brand of hardware will do. You will find the rewards most gratifying, if you happen to be a physician or other health care professional. All right, you say, convince me.

Let's start with the basics. How do these pieces of hardware enable you to link up with the outside world and its vast stores of information?

Your computer is your window to the outside, allowing you to link with many commercial and noncommercial databases. At your terminal you institute the commands that connect you with these services and allow you to query and to communicate with them in an understandable language. The modem is simply a device that translates these commands into a language that may be transferred via telephone lines and deciphered at their destination. Information obtained may then be viewed on your terminal or printed out as hard copy for reading or permanent storage.

All right, you say, I follow so far, but so what? Well, here is where the story becomes interesting. Now that you are computer enabled, how might you want to use this talent?

Suppose we start with the particular areas that might interest a health professional. Have you ever wanted to learn more about a particular disease or its treatment? Have you ever desired to perform a literature search of the files of the National Library of Medicine and its vast source of journals and textual material? Have you ever wanted to ask medical experts for an opinion about a stubborn diagnostic problem or late-breaking therapy or research? Have you ever desired to access your hospital's computer system from your office or home and review live laboratory results or other data?

Perhaps you want to communicate with your colleagues about a medical or medicopolitical issue; your colleagues may be five miles away or around the world! Perhaps you want to tune in on a discussion of a particular topic and read the various comments. Maybe you want to read and comment about medical legislative news or read the latest Medicare regulations and their interpretations. All this can be done from your den or office without hiring someone to act as your intermediary.

Many commercial databases and public bulletin board systems that allow these functions are accessible at very reasonable costs or at no cost. All you do is call and log on. The procedures for obtaining information and/or communicating are simple and easy to learn. Everyone understands that health professionals are not necessarily computer experts. Some of the more familiar services include Compuserve Information Service, Dialog, BRS Colleague, MedLine, Paperchase, AMA NET, Maryland Med-Sig (free and sponsored by Med-Chi) and others.

The average commercial database may charge an initial registration fee of approximately $50 (payable only once) and a charge for on-line time of approximately $10-20 an hour during nonpeak hours, (evenings, nights, weekends, and holidays). Public bulletin boards, of course, are yours to view for the price of a phone call. With a little experience it is quite possible to obtain a literature search resulting in 50 abstracts and references in about 15 minutes of on-line time. Programs such as the Grateful Med, available from the National Library of Medicine at nominal cost, will automatically do your literature search after you have entered your queries off-line, that is, before the meter even starts running. Many of these systems contain files (computer programs) that you may obtain and then run on your own PC. This is especially true of the noncommercial bulletin boards (including Med-Sig) that encourage file exchange. These programs may consist of medical educational real-time case studies or programs that perform a specific medical function such as assisting in diagnosis, interpreting data, or selecting drugs for a particular problem. There are also programs that aid in patient education, assist in desktop publishing such as printing a patient newsletter. Nonmedical files are also available. Over 100 public bulletin board systems exist in the Maryland-DC area alone; many have areas set aside for medical topics and files.

There are other fringe benefits of telecommunications, both nonmedical and medical, that might be of interest once you become a telecommunications user. These items are in no particular order and do not address uses for a computer other than telecommunications.

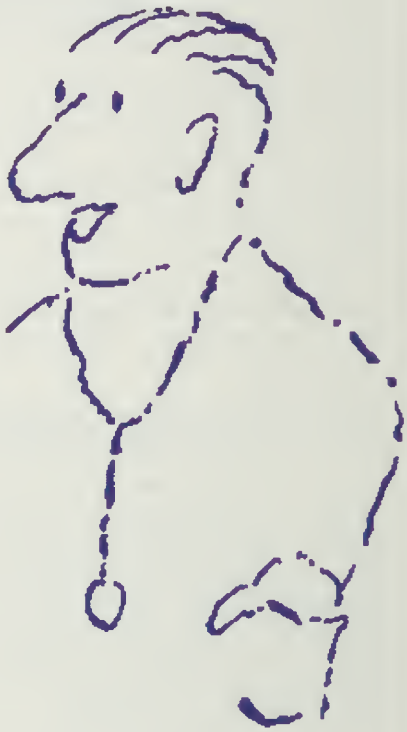
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Search for college information for your children
Use for entertainment and games such as playing chess with another user across the country
Participate in medical research conferences
Obtain late-breaking information from the State Health Department
Use special areas on bulletin boards to communicate and exchange files with others in a particular specialty
Communicate with Med Chi
Send and receive FAX data (requires extra hardware)

If none of the above at least piques your interest, telecommunications is not for you. If you do have some curiosity about telecommunications as a tool or a hobby, rest assured that those of us who have had some experience with computers stand ready to assist you in any way possible to overcome whatever fears or trepidations you may have. Most of us also are new at this; we learn and have learned by experimentation and hands-on trial and error. We are not ashamed of the mistakes we made along the way. Why not join us? ■

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Computers in Medicine Committee

Bruno Mattiello

Mattiello is Director of Computer Services at the Medical and Chirurgical Faculty of Maryland.

One of the group's objectives is to make entering the world of computers as painless and as enjoyable as possible.

The Computers in Medicine Committee was established in 1986 by the Medical and Chirurgical Faculty of Maryland to deal with the impact of the ever-increasing influence of computer technology on the medical professional. The driving force behind this committee was Gerald Oster MD.

The Committee comprises physicians and faculty staff with varying degrees of experience. Some of the members have expertise in telecommunications, hardware configurations, word processing, database management, financial applications, application development, and medically related software.

The members address both the business and professional aspects regarding the impact of computers on physicians and other health care professionals. The Committee hopes to assist in the introduction of any new computer resources to all interested parties and to lend advice and assistance in the fields of telecommunications and medically oriented programs.

One objective of the group is to make entering the world of computers as painless and enjoyable as possible. With the help of Med Chi faculty and staff, the group is organizing training sessions that will enable a physician to acquire expert help in the areas of hardware (what type of computer to buy; what type of software to purchase for a particular task; help in installing the hardware and software in your home or office; and help you become comfortable with the use of this new-fangled contraption called a computer).

The Committee also is concerned with the growing amount of medical management software appearing on the market. More and more physicians are turning to computers to help in their medical practice, and they are looking for ways to run their practices more efficiently.

In the very near future the Committee will be working toward setting up guidelines that can be followed when one enters the computerized office billing market. It will help by giving you a list of questions to ask yourself and to ask the software vendor who will be trying to sell you his medical package.

The Committee is also very interested in the giant leaps in technology that can help a physician in diagnosing patients. Computer programs are being developed in almost every area of

medicine. Programs are designed to help cardiologists perform angioplasty as an alternative to coronary bypass surgery. The software incorporates computer vision and "artificial intelligence" methods designed by engineers at Phillips Medical Systems in the Netherlands, with the help of American medical researchers. The process is known as Digital Cardiac Imaging (DCI).

Because of computer enhancement the images generated offer greater detail than ever before. Because the DCI images are stored digitally they can be recalled whenever needed, permitting the cardiologist, for example, to track the progress of a catheter as it moves through an artery.

The computer revolution is invading the world of psychotherapy. Programs are used with patient - computer interaction that achieve results of seemingly long-term benefit. Programs have been designed to join the theoretical orientations of different types of psychotherapists, such as analysts or behaviorists. Responding to the programs questions, patients basically pick the approach best suited for their particular personality or problem.

Imagine a medical student seated at a console where a large video screen displays a lesion of the arm. It will be up to the student to excise the lesion. Programming of the computer would then relate what the student has inscribed on the arm shown on the video display. This could be accomplished by a marker, a type of instrument somewhat like a "mouse" that is currently used in computer applications. With modifications it could transmit to the user the full sensation of making an incision in real skin. Programming could include depth of cut as well as location and the amount of bleeding expected to take place. Each surgical instrument is displayed on the screen. It will allow the student to sit at the terminal of a surgical simulator and practice an operational procedure until he or she achieves perfection.

Complex procedures could be analyzed to provide the best surgical approach to a specific problem. The simulator could allow for options and choices that might very well be overlooked by a surgical team. The uses for computer simulation are endless, and the technology exists to explore the possibilities.

These are only a few of the new and exciting advancements being made in the forever changing world of computers in medicine.

If you are a physician who has a computer or a physician interested in learning more about the infamous BOX, the Computers in Medicine Committee would be delighted to welcome you as a member. ■

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BRIEF SUMMARY

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There are no known contraindications to the use of sucralfate.

PRECAUTIONS

Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

Pregnancy: Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

OVERDOSAGE

There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

DOSAGE AND ADMINISTRATION

The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

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Reference:

1. Eliakim R, Ophir M, Rachmilewitz D: *J Clin Gastroenterol* 1987;9(4):395-399.

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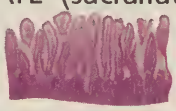
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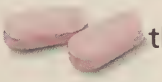


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Insufficient education costs all of us a lot. The unemployment rate for dropouts is twice that of high school graduates. A person with a high school diploma will earn about $200,000 more in his or her lifetime than one who drops out. Today, we are competing with our brains in world markets. And the only way to succeed is with well-educated workers. An effort to correct our dropout problem now can mean a better future for the whole nation.

What can you do? Start close to home. If you have children, keep them in school. Whether you have children or not, help your local school board, teachers, and other parents deal with the problem through community programs. Most of all, try to impress the lifelong importance of a complete education on the young people you know.

When one in four students drops out of school, we must be losing our minds.

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Why You Should Computerize Your Practice - and How

Renee Stearns

Stearns is Director of Sales and Marketing, Protologics, Inc.

Computers have become an essential part of every office environment, and the physician's office is no exception.

Efficient management is essential for the complete success of a practice. Yet achieving a high level of efficiency and exercising controls can be very difficult given the time constraints on a physician and his or her staff.

With a manual system even seemingly simple tasks end up being quite complicated and time consuming. Billing, posting payments, and accessing statistics and reports for the practice each take hours and sometimes days to complete. Having few, if any, audit trails to track patient data or cash received allows these items to be lost (or otherwise strayed) far too easily. Tracking overdue patient and insurance accounts, a critical task, is often overlooked for months at a time.

Deficiencies in any of these areas will drain the practice or, at the least, decrease the chances of recovering receivables. Managing the accounts is one of the most important aspects of the practice as a business. Failure to maximize efficiency will quickly add up to thousands of dollars lost every year.

A computer management system can perform virtually all your administrative tasks in a small fraction of the time required by a manual system. In the long run, not only will it save money but also will make money for the practice year after year.

In addition, the time saved on performing these tasks can be better used. Daily, weekly, and annual reports on statistics of the practice can be generated at the push of a button. Trends can be analyzed and forecast, and activities of individual physicians and locations can be tracked. Most important, more time can be given to patients and increased quality care.

Some very good management systems are available at reasonable prices. The problem is in knowing how to choose among the different packages, which range drastically in performance and price. **Do not assume that price reflects quality.**

In choosing an office management system the first thing to remember is that software is the most important part of your system. **The software should determine your hardware, not the other way around.**

To choose the most suitable package you must determine the specific needs of your practice. The number of patients seen

annually, the size of your staff, the number of office locations, and the frequency and format of billing patients are all important factors for deciding what you need in a management system. In short, understand your business operations and what you want to accomplish with your system.

Evaluating Software

When evaluating the actual software package there are many things to consider. The aid you will receive from this software is as important as the software itself. It is wise to know the software company's background, the support they offer, the length of time it is offered, the options for additional support, the fees involved, and if any guarantees or warranties are provided. There are some characteristics in software packages that may reduce your risk and may help assure that you are purchasing a good package backed by proper support.

It is often better to go with a national product, one that has been around for several years and has a very large installation base. A well-established software package is probably a good one if it has survived in many offices for a long time. New packages made by local firms run the risk of company bankruptcy or problems in the system from less-than-thorough testing.

In addition to the security of a national product, it is important to have quick, attentive response should a problem arise. At times, these problems cannot be resolved over the phone and require a personal visit, which can only be provided through local support. Many national companies offer this, but not all.

A **turnkey system** is optimal, one where the same company provides everything from hardware and software to the billing forms and custom programming. With this arrangement, one group is held accountable for your system running smoothly. You do not have to endure the frustration of different service groups blaming each other for problems while your system remains inoperable; this is a common problem.

The software package itself should be **flexible** and **easy to use**. Computers do not have to be difficult. If designed properly, the software will provide on-screen "help" messages and a corresponding user's manual to guide you through the program.

The computer management system also should be flexible enough to adapt to your office flow; you should not have to adjust to it. The software package should allow you to go in and out of different screens to perform more than one task without interrupting the original task.

If you are interested in transmitting insurance claims electronically (which reduces the payment waiting period to five days) be sure that your management package also has an electronic claims package that interfaces with it. If the two packages are not interfaced, double entry for all patient data is required.

Once you have seen the actual software and heard what the company is offering, it is important to check with references. Most will supply you with a list, and some will even arrange for you to visit client's offices. Take advantage of this. Make sure that customers are satisfied not only with the software but also with the support.

Once you have found a suitable software package, the next step is to determine suitable hardware. As previously mentioned, most companies offer hardware with their software. There are many advantages to purchasing the hardware from the same company, and none are to be taken lightly.

Again, most software companies offer national, name brand hardware that they have tested and successfully run with their software. In addition, the majority will offer hardware support for your equipment so that if anything breaks you will receive service, on site, within a few hours.

National, top name systems are known for their IBM compatibility and dependability. Cheaper imitations often claim to be IBM compatible but almost inevitably have problems running different software packages; it is also very difficult to obtain repair service for them when something fails. You may save some money initially in buying a cheaper system, but the money, time, and frustration spent later will be a far greater cost.

Involving Staff

Some final factors to consider when purchasing a computer system are those related to your staff, your current manual system, and the transition to computerization. This will be a major change, but there are remedies to ease the pain.

It is very helpful to involve your staff in the decision-making process for a computer. They will better understand the changes ahead and can be very helpful in evaluating the different packages. After all, they best understand the administrative procedures and can identify when a system will have trouble handling them.

It is also very helpful to do an audit and determine just what skeletons might be hiding. Some of the companies selling management systems provide consulting as a part of their package. They can make suggestions for preparation. **The more organized your manual system is, the more smooth your transition will be.**

The move to computerization is a big one and should be made carefully and thoroughly. The right system will provide you the best possible efficiency in managing your financial interests in addition to enhancing your patient care. Computers have become an essential part of every office environment, and the physician's is no exception. ■

FAX Technology, A Useful Medical Tool

H. Gerald Oster MD

Facsimile technology (the process of transmitting and reproducing graphic materials via telephone lines) has become familiar in the business and professional community in the last several years. Is there a place for FAX in the medical community?

Maam, we just want the FAX [sic]. This famous quotation from the Dragnet era may soon be finding its way into our medical vocabulary. Facsimile technology (the process of transmitting and reproducing printed matter, still pictures, and other graphic materials by use of telephone lines) has become familiar in the business and professional community in the last several years. Architects, engineers, attorneys, financial tycoons, law enforcement agencies, governments, and businesses have been using FAX machines to transmit plans, designs, contracts, documents, and pictures locally as well as worldwide.

New facsimile machines have become standardized so that any two locations can communicate with each other, regardless of the make and model of FAX machines at either end. Phone directories of FAX-equipped locations are finding their way into many offices, and FAX numbers often are seen on business letterheads. Is there a place for facsimile technology in the medical community?

Many uses for FAX by health providers are quite apparent; here are a few likely scenarios in which FAX may be helpful. You, the physician, are busy seeing patients in your office when you receive a phone call from Somewhere General Hospital's Emergency Room. Your patient has just been brought in complaining of atypical chest pain. His electrocardiogram looks slightly abnormal but not diagnostic. The ER physician would like to compare previous EKG readings taken in your office. You might be able to accommodate him by a telephone description, but instead you FAX your EKGs to him for more accurate comparison. He, in turn, sends you the ER tracing, and the two of you are able to consult regarding the disposition of the patient. Lab work and other data also are transferred as well as the results of a recent Cardiac Stress Test. Because of subtle but definite EKG changes (even though clinically the patient seems fine) the patient is admitted and later has definitive EKG changes of significance.

Another patient of yours arrives in the ER at 4 a.m. and is treated and discharged. The ER physician requests that the patient see you first thing in the morning for follow-up. He then FAXes the ER note and lab results to your office. When you see the patient

the next morning, all the vital information is available, allowing you to undertake follow-up care.

Mrs. Jones is seen by a physician in another state who determines that she needs immediate surgery for a pelvic abscess secondary to fistula as a result of Crohn's disease. You have operated upon this individual on three other occasions, and the surgeon would like your operative notes to help guide him.

You are working in your main office when your associate calls from your other office requesting records of a patient that she is seeing there on an emergency visit.

You are sending your medical patient to a surgical consultant to be seen immediately. You would like him to have the benefit of certain medical records and X-ray reports when he sees the patient, and mailing them would take too long.

Your radiology consulting group has just completed a series of diagnostic studies on your patient, who is very anxious to obtain the results. The reports are immediately FAXed to your office, and you phone the patient to relieve her concerns.

Mr. Smith is visiting in Florida for the winter and forgot to take a list of his medications. You FAX the list along with other important medical information to his physician there or possibly to the pharmacy that will be filling his prescriptions.

Several pharmacies in your area fill the majority of your patients' prescriptions. You receive 30 to 40 calls a day from these pharmacies to authorize refills on a routine basis. To reduce the number of calls, the pharmacy FAXes the list of patients and refill requests to you for your authorization, and your office staff FAXes them back with appropriate comments and your signature if required.

Your associate is seeing one of the practice's patients in the hospital and would like to see some records and test results from your office. Your staff FAXes the information to him, and he affixes it to the hospital record.

You are an officer of your medical staff organization, and your signature is needed immediately on an important document. The document is FAXed to you, signed, and returned in a matter of minutes.

You need a MedLine search on new treatments of an unusual illness. You do not have the facilities for performing the search yourself and have requested Med Chi to do so as soon as possible. The search is completed and FAXed to you without delay.

Many of you can think of other uses for facsimile technology, and your colleagues would certainly like to hear them.

What is involved in becoming a facsimile user? Sending and receiving FAX requires only the purchase of a facsimile machine and the availability of a phone line, preferably but not necessarily a dedicated line. There are many FAX machines currently on the market, and prices have decreased over the last several years even though the technical quality of FAX has improved. Most of the popular electronics manufacturing companies are marketing FAX machines through vendors as well as by retail and direct purchase. Many office supply companies will be happy to demonstrate their machines and perhaps even lend out a machine on a trial basis.

Prices range from approximately $800 to $2,200 depending on features needed. A personal FAX machine for an office with limited usage can be found at the low end. A busier office might opt for a more featured machine in the $2,000 range. The main differences in features are the ability to transmit various shades (grey shades) as well as just black and white, automatic unattended dialing (most machines will receive automatically), and the ability to send more detailed graphics.

To receive a FAX transmission, merely set up the machine, and the rest is done automatically at any time of day or night. To send a FAX, insert the document(s) to be sent, dial or autodial the number; the process is automatic. Many machines can be set to transmit in normal or high graphic modes for better clarity at the other end, such as when sending an electrocardiogram with detail. Most machines will verify to you in writing that your transmission was received on the other end and will even keep a log of all FAX transmissions, both sending and receiving.

At the press of a button you may even talk to the receiving station after the FAX is delivered. The actual cost of the transfer is the same as the cost of the phone call plus the low cost of the special paper that the receiving machine prints the document(s) on.

It appears that more and more physicians, hospitals, pharmacies, nursing homes, and medical organizations are joining the FAX club. The more users, the more practical the technology will become. If your appetite has been whetted by this brief description of facsimile technology, consider looking at FAX as a helpful tool in your medical practice. ■

The Last Frontier: Computerizing Appointments

Mary Jo Putney

Putney is a free-lance writer and novelist who lives in Baltimore, Maryland.

Many medical practices have been quick to see the advantages of automating accounts and bookkeeping, but there is much greater psychological resistance to automating appointments although this is among the easiest and most useful functions to computerize.

There are three major reasons why patients telephone doctors' offices: to make or change appointments, for billing inquiries, and to ask medical questions. The first two are easily computerized, with consequent improvements in efficiency and cost savings.

"You wouldn't believe the amount of time we used to spend looking for patients' charts," says Theresa Landon with a laugh. Mrs. Landon is medical assistance supervisor of the Anne Arundel Orthopaedic Surgeons practice in Annapolis, Maryland, and one of her major duties is scheduling surgeries for all five physicians in the office. "Phones are ringing here all the time, and usually it is to make an appointment or to find the time of one when a patient has forgotten. Since it wasn't practical to check through the whole appointment book, that meant going to the individual chart, which could be anywhere. Not just in the file cabinets, but in the lab, in the doctors' offices. Even piled on a desk when things were hectic!"

All that changed when the practice acquired a computer system. The office manager, Mrs. Gerry Clark, says, "The decision to automate the office was for administrative reasons, such as bookkeeping and records. We bought the appointments module with the rest of the computer system, but we had no idea how rewarding it would prove to be."

While many medical practices have been quick to see the advantages of automating accounts and bookkeeping, there is much greater psychological resistance to automating appointments, even though this is one of the easiest and most useful functions to computerize. Appointments are the lifeblood of a medical practice, and a physical appointment book that can be held in the hands is very reassuring. Yet that same book is subject to spilled coffee, multiple erasures, and the inconvenient fact that only one person has access to it at any one time.

While all medical practices can benefit by a computerized appointment system, clearly larger practices benefit most. Well-designed software can schedule physicians and other medical personnel as well as equipment and examining rooms. For ex-

ample, practices in specialties such as ophthalmology, neurology, and internal medicine often own single pieces of expensive equipment, and an appointment system can insure that only one physician at a time will be examining a patient who might need that equipment.

Being able to book appointments at any convenient computer terminal is an obvious plus, particularly at practices with multiple office sites, but there are less obvious side benefits. Nationwide, the no-show rate for physicians' offices is on the order of 30 percent, and the limitations of a paper appointment system can be a contributing cause.

A common patient complaint is that doctors' offices are run for the convenience of the doctors, with little sensitivity to their patients, and it is true that the high-pressure atmosphere of a busy office is not conducive to long searches of an appointment book to find the best time for the patient. A patient who reluctantly accepts an opening that is inconvenient for him, such as four o'clock Friday afternoon, is far more likely to skip the appointment than a patient who has a time better suited to his personal schedule. Computerized appointments allow the practice to accommodate the patient by efficiently finding openings by day, date, and time range. Not only will an office's no-show rate improve, but also patients are more satisfied with a practice responsive to their needs and plans.

Another feature that good appointment packages offer is bulk scheduling, which is particularly useful for specialties such as psychological counseling, obstetrics, and physical therapy. A group of times, such as Tuesday and Thursday at ten o'clock for the next three months, can be booked all at once. Some systems can be programmed to send reminders of appointments that were set months in advance or to remind patients not to eat for twelve hours before an examination or other special requirements.

Anne Arundel Orthopaedic Surgeons is one practice that has been very pleased with their computerized appointment system. The original decision to computerize was made in 1985, when the practice had four surgeons. The doctors and senior office staff made a wish list of everything they would like to have in the new system, and vendors were invited to make presentations. After evaluation, the staff selected the Harmony integrated software system from Medical Technologies, Inc.

Besides liking MTI's overall proposal, office manager Gerry Clark says that she and the doctors appreciated the vendor's willingness to make modifications to suit the special requirements of a surgical practice. In addition, MTI offered extensive training, both on-site and at the supplier's facility.

"MTI's training was excellent, and we took full advantage of it," said Mrs. Clark. "Everyone in the office went to MTI as often as necessary, and when we actually went on-line, an MTI trainer was here on site for two days, which made the transition very easy."

As in many offices, there was some initial resistance to computerization; Mrs. Clark said that her long-time bookkeeper was so apprehensive that she considered resigning. "The same employee now loves the system and recently said that she can't imagine the office without it."

Not all employees resisted in the beginning. "The younger girls used the system as a toy," Mrs. Clark recalled. "I even found that we had Mickey Mouse and Donald Duck entered as patients."

Teri Landon was a staff member who welcomed the new system. "I was excited about the decision to automate because I've always wanted to work on a computer system. The surprise was how much easier it was to learn than I had expected. The Harmony system is well designed, and the MTI trainers did a good job."

The bookkeeping and records software was easily implemented, and after six months the appointments module was integrated into the system. The MTI system allows up to ninety-nine separate appointment books to be maintained, though currently the practice requires only sixteen. A split-screen feature makes it possible for the office staff to compare and use two books at once. The books were customized to the physicians' individual tastes, such as a preference for early morning appointments, or out-of-office time. Scheduled surgeries, meetings, and vacations are routinely maintained in these books.

"Under the manual system," Mrs. Clark said, "staff members were constantly competing for the appointment book: the doctors to review their schedules, the X-ray technicians and the surgical-posting secretary for their specific needs. The staff was unable to schedule surgeries while patients were there in the office because the book was always tied up. Now any staff person, via a terminal, can gain access to all records and appointments at all times."

Determining a future appointment time for a patient who has forgotten is now as easy as entering the patient's name; another keystroke will provide that same patient's future appointments. A further big plus is that any staffer can immediately

Harmony Practice Management System

The Harmony integrated management system is produced by Medical Technologies, Inc., and requires 512K RAM in an MS-DOS system and one megabyte under Xenix®. Software packages are available from $6,000.

Harmony is designed to be flexible and expandable. The core software includes all billing insurance processing and coding, receivables management, automatic write offs, and overall patient care management. Integrated Productivity Modules and Specialists' Practice Modules may be added at any time, and the vendor also will create custom software for specialized practice needs.

The Appointments Module is fully integrated with the core software and can be operated from any terminal in the system. Up to 99 appointment books can be maintained, and a split screen feature makes it possible to compare multiple books at once.

For more information contact: Medical Technologies, Inc., 9790 Patuxent Woods Drive, Columbia, MD 21046 (800-777-7MTI).

respond to questions from patients, lawyers, or insurance companies. This feature is particularly helpful when the front desk is busy.

In the future, the office plans to send reminder letters for long-range appointments. "Most of our patients make follow-up visits within just a few weeks, but conditions like scoliosis require six-month or yearly check-ups," said Mrs. Clark. "Reminders will be useful in those cases."

At the time of the initial computer purchase, the practice had four orthopaedic surgeons and only one location. There are now five surgeons (Drs. Robert S. Ellis, Allen C. Egloff, Neill S. Cooper, Garrett J. Lynch, and Jeffrey R. Chain), a physician's assistant, and two satellite offices in addition to the original site. "The computer system made it possible to establish the satellite offices," Mrs. Clark explained. "I know of other practices that use call-forwarding to set up appointments at the central office. That can be very frustrating because everyone has to wait if the phones are busy or the staff is occupied. With the Harmony system, the computer makes all appointment books instantly available to everyone at the office."

Every morning charts are pulled for the next day's office appointments, and surgery charts also are pulled. On the actual day, the charts are checked again for any schedule changes. The physical charts are maintained in the central Annapolis office, but many records are kept in the computer so even a walk-in patient can be taken care of promptly. In addition, the practice has ordered a FAX system to connect the three sites.

Each doctor receives a print-out of his schedule each morning, including notes identifying the patient as new or follow-up; whether the appointment is likely to be long or short; whether procedures like suture removal or debridement will be required. Appointment print-outs can be done at any time, and routinely include patients' phone numbers, a particularly convenient feature when it is necessary to reschedule appointments.

The print-outs are also a useful back-up. "It's reassuring to have physical lists of each day's activities," Mrs. Clark said. "Fortunately the system is rarely down, but when it is, new appointments can't be made and old ones can't be checked. With the print-outs, most of the normal business of the office continues without interruptions."

Teri Landon mentions another particularly valuable aspect of the system. "Now we can keep up with the work much more efficiently, and that reduces the stress level in the office. Both staff and patients are happier."

Since scheduling is primarily a front-desk task, the software that manages appointments should be significant, if not the most important factor, when medical practices are evaluating the computer system that will best suit their needs. If appointments and billing are being processed with maximum efficiency, the office has more time available for its principal function: the profession of healing.

"In the past, medical practices bought computers to increase efficiency," Gerry Clark concludes, "but we're using the computer for more varied purposes than we ever expected. We have recognized that the computer is simply a better system." ■

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What Else Can Computers Do?

Harold L. Krell

Krell is Vice-President of LifeCard, International, Inc.

Computers in a medical practice are no longer restricted to front-desk or back-office operations; they can provide a gateway to a wealth of information or place incredibly helpful tools at one's disposal.

If you've been out of medical school for more than ten years, chances are you are not practicing medicine today the way you did during your internship and residency. Technology has changed dramatically in the areas of pharmacology, diagnostic equipment, surgical procedures, and so on. So too technology has changed for the application of computers in a medical practice.

The advent of powerful microcomputers has created all types of opportunities for today's medical practice to take advantage of this technology. Computers in a medical practices are no longer restricted to front-desk or back-office operations like billing, word processing, and appointment scheduling. While many medical practices have invested in personal computers, most are used by secretarial or clerical personnel.

In reality, today's clinician can look to an inexpensive personal computer to provide a gateway to a wealth of information or to place incredibly helpful tools at his/her disposal. To those of us with an interest in computers relating to the medical profession, it has become painfully obvious that these wonderful applications are underutilized simply because most clinicians have little or no hands-on experience with computers and are unaware of the applications they have beyond the business side of the practice.

In the limited space available here, let's examine a few of the more general applications that would be appropriate for a wide range of practices and medical specialties.

Drug/Drug Interactions

We have heard the large retail pharmacy chains advertising computerized applications that maintain a patient drug profile that can intercept potential adverse effects caused by multiple medications. But what about the local pharmacy that does not have that capability or the prescription that gets filled at a pharmacy other than the patient's normal one? For your office use, there are programs available that will compare the effects of over 50,000 prescription and OTC products. In addition to simple drug/drug interactions and patient profile storing, these systems offer some or all of the following features:

Admixture Incompatibility
A comprehensive admixture incompatibility database with reference to Dr. James King's "Guide to Parenteral Admixtures."

Clinical Laboratory Interference
A clinical laboratory interference database indicating potential false outcomes resulting from the chemical composition of single or multiple products.

Drug/Nutrient Interactions
Providing information on the effect of specific drug entities upon naturally occurring nutrients such as vitamins and minerals.

Patient Advisory Information
The ability to print patient instructions regarding compliance or to print all OTC products containing a specific ingredient or to print nonprescription drugs by trade name that interact with specific prescription drugs.

Most of these systems are available with monthly or quarterly updates to the database, and at least one is endorsed by the American Pharmaceutical Association (APhA). They run on IBM PC/ATs or compatible machines and cost approximately $400 to purchase the initial software with updates ranging from $200 to $400 per year.

Commercial and Medical Databases

Several database subscription services are available that allow you to tie into medical and commercial databases via a telephone line hook-up from your personal computer to their large mainframe computers. If your computer is not equipped with a modem (the device needed to convert telephone signals into those your computer can identify) you can add one for less than $200. These subscription services require minimal initial investments (0-$100) and some have $25-$50 monthly minimum usage charges. Your total cost for these services is based on the number of minutes you are connected to the databases. While there are over 700 databases available, these are some of the more popular topics covered:

Medical/Clinical
- AP News offers an online medical newswire service.
- Medline offers an index of over 3,000 medical journals published in over 70 countries with articles dating back to 1966. About 40 percent of the articles contain abstracts.
- U.S. Medical Research Update reports on R&D biomedical research organizations with particular emphasis on treatments for cancer and heart disease.

Commercial
- Dow-Jones provides up-to-date stock quotations. The data received can be electronically integrated into several portfolio manager software products.
- OAG is an online version of the Official Airline Guide.
- Magills Survey of Cinema summarizes and provides critical analysis of over 1,800 noteworthy films dating back to 1902. Records also include cast, credits, and awards.
- Academic American Encyclopedia contains the full text of the encyclopedia published by Grolier.

Continuing Medical Education

CME credits are available through a variety of computerized sources. Courses are available through subscription services or on diskette from companies such as Scientific American and Williams & Wilkins. The programs on diskette can be used for credit and for training staff members. On a local note, Med Chi's own Center for Health Education is exploring the idea of offering online and/or diskette CME courses for distribution among Maryland physicians and surgeons.

Desktop Publishing

Desktop publishing is one of the personal computer industry's newest "buzz words." Simply stated, it allows you to produce a professional-looking newsletter complete with headlines, different type faces, and graphics. Many of today's practices have begun to invest in vehicles to communicate with their patient population. Desktop publishing is an inexpensive mechanism to deliver your custom message.

Remote Communications

The inexpensive programs (under $100) such as Carbon Copy and PC Anywhere allow you to communicate with your machine in the office from your computer at home or vice versa. With this software you take over the controls of the computer in the remote location and operate it as if you were there.

Graphics

Graphics packages such as Harvard Graphics, PC Paint, and Storyboard allow you to create professional graphs and pictures that are perfect for use in creating overhead transparencies or 35mm slides.

Finance

There is an endless variety of products available for personal money management, portfolio management,

and tax planning. Some of the best known products in this area are Managing Your Money, Managing the Market, and Telescan. They range in price from under $50 to several hundred dollars.

Recreation

All work and no play.... An esteemed member of the Computers in Medicine Committee shared his innermost computer secrets by permitting me to peruse the litany of recreational software contained in his computer. I was able to test drive a Lamborghini Countach and challenge the world's greatest golf courses with Mean 18 Golf. I flew from BWI to Atlantic City with Flight Simulator where I won thousands of dollars at an imaginary casino playing Blackjack and Craps. I challenged world champions in Grand Slam Bridge, Gin Rummy, Pool, and Sargon Chess. And to top it all off, I checked my biorhythms for the next month to determine when it would be best for me to return to these games of chance.

As you can see from this brief review, the world of microcomputers can provide dramatic changes in the operation of a medical practice. When you think about it, microcomputers have had an effect on almost all phases of today's lifestyle. Automobiles are controlled by microprocessors as are coffee makers, VCRs, stereos, children's games, heating systems, telephones; the list goes on and on. Why not take advantage of this technology we take for granted in our everyday life and apply it to the controlled environment of our businesses?

An excellent source for learning more about medical computer software is *MD Computing* magazine's annual "Buyers Guide" that presents abstracts of several thousand computer software products designed for use in a medical practice. This publication details all the software available for specific medical specialties and is complete with author contact and pricing information. *MD Computing* is published by Springer-Verlag New York, Inc.

To further assist you in learning more about the use of computers in your practice and at home, our company has embarked on a cooperative venture with the Computers in Medicine Committee of Med Chi to sponsor a series of lectures conducted by members of the Med Chi faculty. These lectures will be held at several area hospitals and are open to all clinicians wishing to learn more about computer applications.

The first lecture will be held at Homewood Hospital Center South on May 17, 1989. Our guest lecturer will be Dr. Gerald Oster. If you would like to attend this session or would like information regarding future dates, please contact Joan Pepersack at 301-494-4800.

Our company was pleased to join Med Chi's Center for Health Education, the Computers in Medicine Committee, and the University of Maryland Department of Family Practice is conducting a survey of hundreds of Maryland clinicians regarding their use of computers in their practices and at home. Some respondents have told us they are computer illiterate while others are computer enthusiasts. We believe the results of this survey will represent a cross-section of today's practicing clinician. We are compiling the results of the survey (using a computer, of course) and hope to publish its results in a near future issue of *MMJ*. ■

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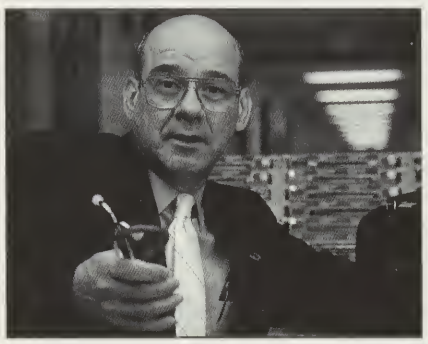
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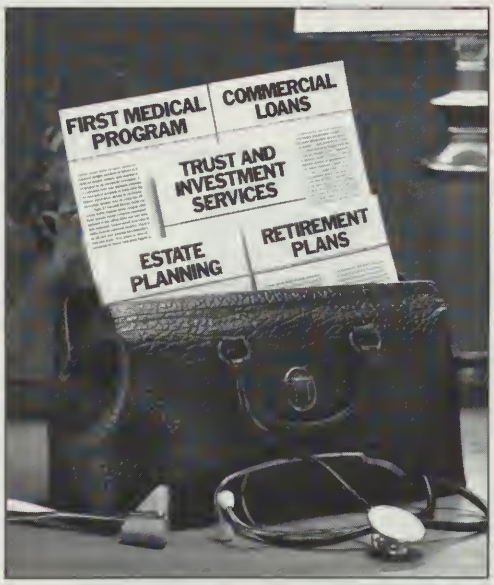
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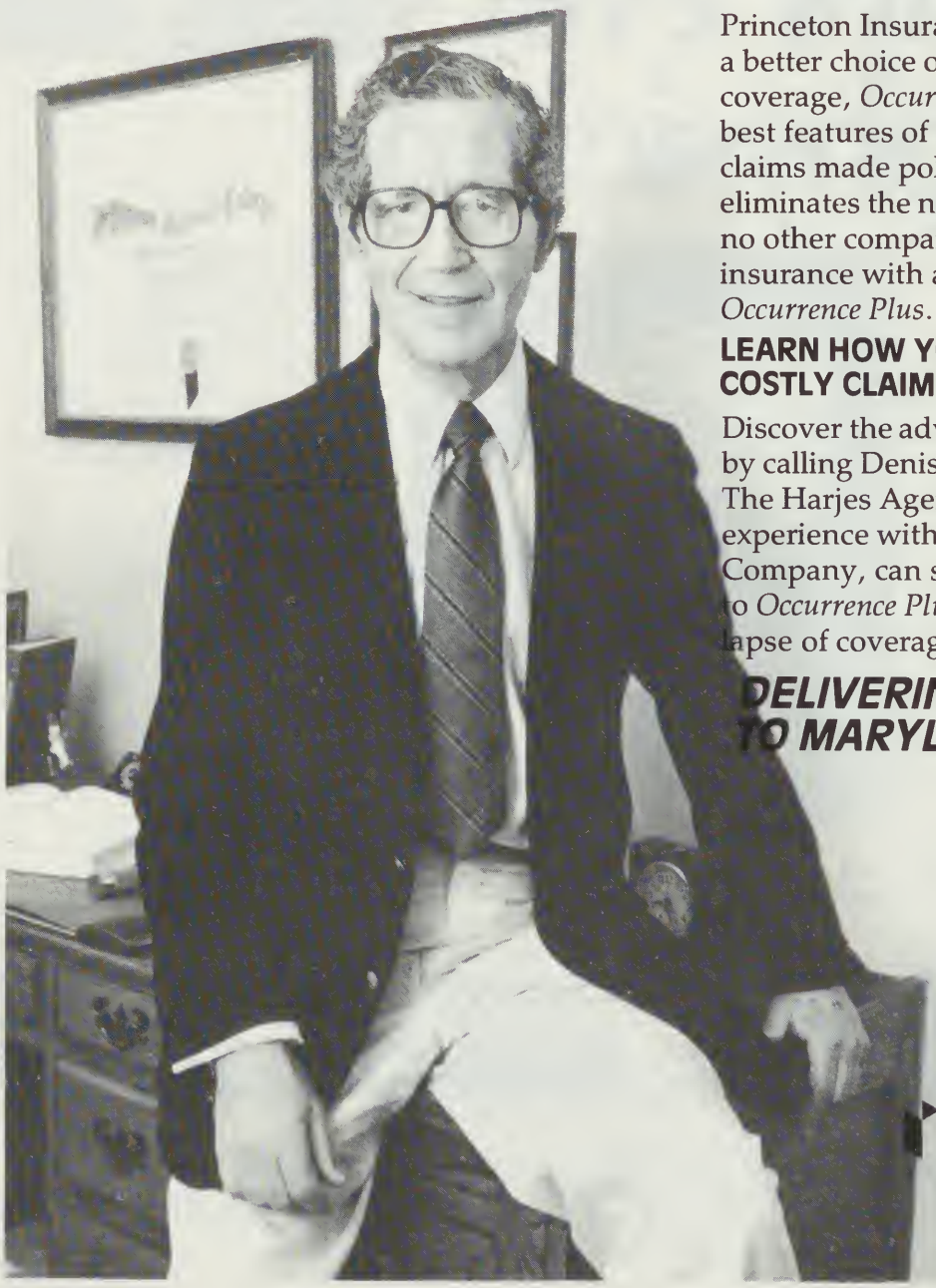
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Our Anniversary Year

Visibility of our State Auxiliary and recognition for our work has dominated the 1988-1989 Fortieth Anniversary Year.

In November the Auxiliary, Med-Chi, Maryland Medical Political Action Committee, and specialty societies jointly participated in "Docs for Don." This was a breakfast meeting with Governor William Schaefer, who is a friend of medicine. I introduced myself and stated that I was State Auxiliary President representing physician spouses in Maryland. When the Auxilians present had our picture taken with the Governor, he looked at me and said: "Auxiliary." Bingo for us!

January 31 was Auxiliary Day in Annapolis. Vicki Cameron, State President-Elect; Josie Figueroa, Nominated State President-Elect; Dan Divito, Legislation Chairman; Mary Skipton, Past State President and Legislative Chair; and I stood on the dais in the Maryland Senate chambers and proudly received from Mike Miller, President of the Senate, a Resolution to our Auxiliary "In Recognition of Contributions in Health, Education and the Promotion of Quality Health Care."

We are thrilled that our worthy organization has received the recognition and visibility that it truly deserves. Our commitments and accomplishments in our own counties are varied, and they have had a tremendous impact on our communities. We should be proud of our work!

Thursday, April 13 was a joyous celebration of our 40th Anniversary. A further celebration will occur in Chicago, June 18-21, at the AMA Auxiliary Convention when Mary Strauss (Mrs. Albert J., Jr.) will preside. We have been proud and honored that Mary has been the first AMA Auxiliary President from Maryland. Maryland Auxilians will be delegates and official floor pages during all meetings. Once again we will be in our uniforms of black skirts and yellow jackets to represent our state flower, the Black-Eyed Susan. A Maryland delegation dinner will join the Medical Society and Auxiliary in fellowship.

The State Auxiliary is proud of its 40 years of rich and varied history, and we have been proud that Mary Strauss, as AMA Auxiliary President, could serve as a further honor for the State Auxiliary.

EVA EDMONDS, Past President

Auxiliary to the Medical and Chirurgical Faculty of the State of Maryland. Mrs. Victoria Cameron President; Mrs. Betty J. Molz Editor. ■

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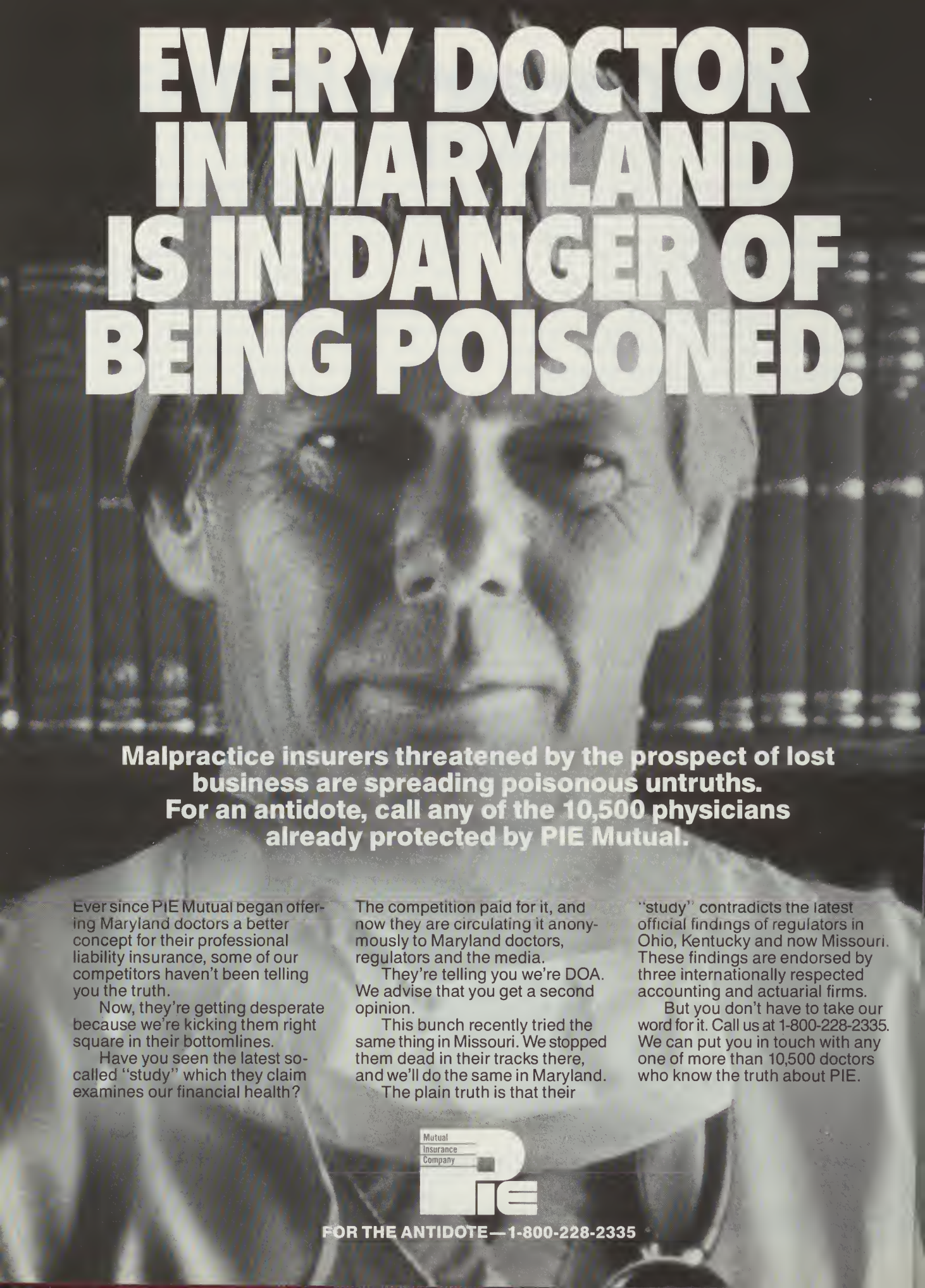
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Maintains well-being[2-6]

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Helps reduce cardiovascular risks[2,5,9]

90 mg SR bid

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Please see brief summary of prescribing information on next page.

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Starting Dosage:



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Also Available: 120-mg capsules

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BRIEF SUMMARY
CARDIZEM® SR
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Sustained Release Capsules
CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, (3) patients with hypotension (less than 90 mm Hg systolic), (4) patients who have demonstrated hypersensitivity to the drug, and (5) patients with acute myocardial infarction and pulmonary congestion documented by x-ray on admission.

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (nine of 2,111 patients or 0.43%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). An acute study of oral diltiazem in patients with impaired ventricular function (ejection fraction 24% ± 6%) showed improvement in indices of ventricular function without significant decrease in contractile function (dp/dt). Experience with the use of CARDIZEM (diltiazem hydrochloride) in combination with beta-blockers in patients with impaired ventricular function is limited. Caution should be exercised when using this combination.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** Mild elevations of transaminases with and without concomitant elevation in alkaline phosphatase and bilirubin have been observed in clinical studies. Such elevations were usually transient and frequently resolved even with continued diltiazem treatment. In rare instances, significant elevations in enzymes such as alkaline phosphatase, LDH, SGOT, SGPT, and other phenomena consistent with acute hepatic injury have been noted. These reactions tended to occur early after therapy initiation (1 to 8 weeks) and have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in some cases, but probable in some. (See PRECAUTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Dermatological events (see ADVERSE REACTIONS section) may be transient and may disappear despite continued use of CARDIZEM. However, skin eruptions progressing to erythema multiforme and/or exfoliative dermatitis have also been infrequently reported. Should a dermatologic reaction persist, the drug should be discontinued.

Drug Interaction. Due to the potential for additive effects, caution and careful titration are warranted in patients receiving CARDIZEM concomitantly with any agents known to affect cardiac contractility and/or conduction. (See WARNINGS.) Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

As with all drugs, care should be exercised when treating patients with multiple medications. CARDIZEM undergoes biotransformation by cytochrome P-450 mixed function oxidase. Coadministration of CARDIZEM with other agents which follow the same route of biotransformation may result in the competitive inhibition of metabolism. Dosages of similarly metabolized drugs, particularly those of low therapeutic ratio or in patients with renal and/or hepatic impairment, may require adjustment when starting or stopping concomitantly administered CARDIZEM to maintain optimum therapeutic blood levels.

Beta-blockers: Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated, but available data are not sufficient to predict the effects of concomitant treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities.

Administration of CARDIZEM (diltiazem hydrochloride) concomitantly with propranolol in five normal volunteers resulted in increased propranolol levels in all subjects and bioavailability of propranolol was increased approximately 50%. If combination therapy is initiated or withdrawn in conjunction with propranolol, an adjustment in the propranolol dose may be warranted. (See WARNINGS.)

Cimetidine: A study in six healthy volunteers has shown a significant increase in peak diltiazem plasma levels (58%) and area-under-the-curve (53%) after a 1-week course of cimetidine at 1,200 mg per day and diltiazem 60 mg per day. Ranitidine produced smaller, nonsignificant increases. The effect may be mediated by cimetidine's known inhibition of hepatic cytochrome P-450, the enzyme system probably responsible for the first-pass metabolism of diltiazem. Patients currently receiving diltiazem therapy should be carefully monitored for a change in pharmacological effect when initiating and discontinuing therapy with cimetidine. An adjustment in the diltiazem dose may be warranted.

Digitalis: Administration of CARDIZEM with digoxin in 24 healthy male subjects increased plasma digoxin concentrations approximately 20%. Another investigator found no increase in digoxin levels in 12 patients with coronary artery disease. Since there have been conflicting results regarding the effect of digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing CARDIZEM therapy to avoid possible over- or under-digitalization. (See WARNINGS.)

Anesthetics: The depression of cardiac contractility, conductivity, and automaticity as well as the vascular dilation associated with anesthetics may be potentiated by calcium channel blockers. When used concomitantly, anesthetics and calcium blockers should be titrated carefully.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded from these studies.

The adverse events described below represent events observed in clinical studies of hypertensive patients receiving either CARDIZEM Tablets or CARDIZEM SR Capsules as well as experiences observed in studies of angina and during marketing. The most common events in hypertension studies are shown in a table with rates in placebo patients shown for comparison. Less common events are listed by body system; these include any adverse reactions seen in angina studies that were not observed in hypertension studies. In all hypertensive patients studied (over 900), the most common adverse events were edema (9%), headache (8%), dizziness (6%), asthenia (5%), sinus bradycardia (3%), flushing (3%), and 1° AV block (3%). Only edema and perhaps bradycardia and dizziness were dose related. The most common events observed in clinical studies (over 2,100 patients) of angina patients and hypertensive patients receiving CARDIZEM Tablets or CARDIZEM SR Capsules were (ie, greater than 1%) edema (5.4%), headache (4.5%), dizziness (3.4%), asthenia (2.8%), first-degree AV block (1.8%), flushing (1.7%), nausea (1.6%), bradycardia (1.5%), and rash (1.5%).

DOUBLE BLIND PLACEBO CONTROLLED HYPERTENSION TRIALS

Adverse	Diltiazem N=315 # pts (%)	Placebo N=211 # pts (%)
headache	38 (12%)	17 (8%)
AV block first degree	24 (7.6%)	4 (1.9%)
dizziness	22 (7%)	6 (2.8%)
edema	19 (6%)	2 (0.9%)
bradycardia	19 (6%)	3 (1.4%)
ECG abnormality	13 (4.1%)	3 (1.4%)
asthenia	10 (3.2%)	1 (0.5%)
constipation	5 (1.6%)	2 (0.9%)
dyspepsia	4 (1.3%)	1 (0.5%)
nausea	4 (1.3%)	2 (0.9%)
palpitations	4 (1.3%)	2 (0.9%)
polyuria	4 (1.3%)	2 (0.9%)
somnolence	4 (1.3%)	—
alk phos increase	3 (1%)	1 (0.5%)
hypotension	3 (1%)	1 (0.5%)
insomnia	3 (1%)	1 (0.5%)
rash	3 (1%)	1 (0.5%)
AV block second degree	2 (0.6%)	—

In addition, the following events were reported infrequently (less than 1%) or have been observed in angina trials. In many cases, the relation to drug is uncertain.

Cardiovascular: Angina, arrhythmia, bundle branch block, tachycardia, ventricular extrasystoles, congestive heart failure, syncope.

Nervous System: Amnesia, depression, gait abnormality, hallucinations, nervousness, paresthesia, personality change, tinnitus, tremor, abnormal dreams.

Gastrointestinal: Anorexia, diarrhea, dysgeusia, mild elevations of SGOT, SGPT and LDH (see hepatic warnings), vomiting, weight increase, thirst.

Dermatological: Petechiae, pruritus, photosensitivity, urticaria.

Other: Amblyopia, CPK increase, dyspnea, epistaxis, eye irritation, hyperglycemia, sexual difficulties, nasal congestion, nocturia, osteoarticular pain, impotence, dry mouth.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme and leukopenia. Definitive cause and effect relationship between these events and CARDIZEM therapy cannot yet be established.

Issued 1/8

References: 1. Staessen J, Fagard R, Lignen P, et al: *Pract Cardiol* 1986;12(5):55-65. 2. Massie B, MacCarthy E, Ramanathan KB, et al: *Ann Intern Med* 1987;107(2):150-157. 3. Weir MR, Josselson J, Giard MJ, et al: *Am J Cardiol* 1987;60:361-411. 4. Frishman WH, Zawada ET Jr, Smith LI, et al: *Am J Cardiol* 1987;59:615-623. 5. Pool PE, Seagren SC, Salel AF: *Am J Cardiol* 1985;56:86H-91H. 6. Pool PE, Seagren SC, Salel AF: *Cardiol Board Rev* 1986;3(10):79-91. 7. Sunderrajan S, Reams G, Bauer JH: *Hypertension* 1986;8:238-242. 8. Amodeo C, Kobrin I, Ventura HO, et al: *Circulation* 1986;73(1):108-113. 9. Schulte K-L, Meyer, Sabellek WA, Haertenberger A, et al: *Hypertension* 1986;8:859-865.

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MRI UPDATE

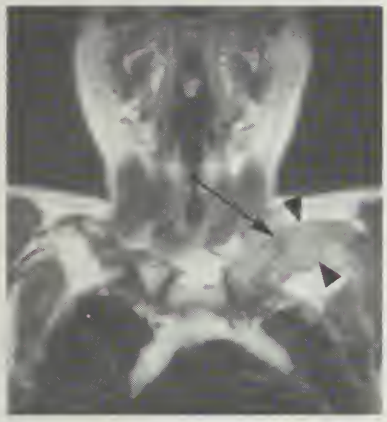


Figure 1

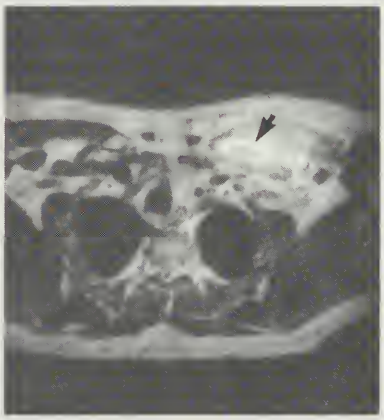


Figure 2

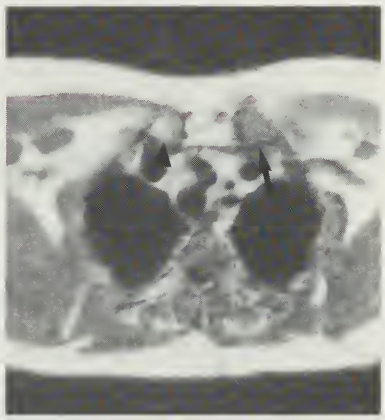


Figure 3

HISTORY: This patient is a 45 year old male who, on minor trauma, felt a popping sensation in his left sterno-clavicular region. Diffuse swelling developed and progressed down the left anterior chest wall over the next few weeks. A CT scan demonstrated a fracture of the midportion of the clavicle with minimal asymmetry of the soft tissues.

MRI FINDINGS:

Coronal images demonstrated disruption of the midportion of the left clavicle (Fig. 1, long arrow) with intermediate signal intensity material extending into the adjacent muscles (arrowheads). Transverse T2 weighted images (Fig. 2) show an area of increased signal intensity in the region of the clavicular fracture with extensive intermediate signal intensity material extending into the surrounding muscles. The high signal area most likely represents a hematoma surrounding the fracture (short arrow). The more diffuse intermediate signal represents diffused blood and/or edema in the surrounding muscles. T1 weighted images (Fig. 3) demonstrated low signal in the region of the clavicle near the sternoclavicular joint (small arrow, compare to high signal of right clavicle, arrowhead). The low signal indicates a bone marrow replacing process. Given the history of fracture following minor trauma, low signal intensity within the left clavicle increases suspicion of underlying malignancy rather than post traumatic edema. Biopsy showed undifferentiated carcinoma.

MRI HIGHLIGHTS:

While the fracture and minimal asymmetry of the soft tissues can be identified on the CT scan, this case illustrates the superior soft tissue contrast differentiation of MRI. Changes that are difficult to appreciate on the CT scan become obvious on MRI, which is rapidly becoming the method of choice for evaluating occult soft tissue abnormalities.

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In the Matter of
Nicholas Michael Azzato MD
Before the
Maryland Board of
Physician Quality Assurance

Findings of Fact
Conclusions of Law, and Order

On June 21, 1988, after a hearing before the Commission on Medical Discipline (the "Commission") on April 5, 1988, the Commission found that Nicholas Michael Azzato MD ("Respondent") committed the following prohibited acts under the Medical Practice Act, Health Occupations Article, *Annotated Code of Maryland, 1987 Supplement* (the "Act"):

> Fraudulently or deceptively uses a license; 14-504(2) of the Act
> Is guilty of immoral conduct in the practice of Maryland; 14-504(3) of the Act
> Is convicted of or pleads guilty or *nolo contendere* with respect to a crime involving moral turpitude, whether or not any appeal or other proceeding is pending to have the conviction set aside; 14-504(6) of the Act
> Is addicted to or habitually uses narcotics or controlled dangerous substances as defined in Article 27 of the Code. 14-504(9)

The Commission suspended Respondent's license for a year, retroactive to December 21, 1987,[1] and placed Respondent on probation. The Commission ordered, *inter alia*, that:

1. Respondent shall participate in:
   a. Group therapy at a group therapy program approved by the Commission, at least one session per week;
   b. Individual therapy at an individual therapy program approved by the Commission, for at least one session per week, with the health professional providing the individual therapy to issue a report of Respondent's progress to the Commission every six months, the first report to be issued one month after the date of this Order; and
   c. Narcotics Anonymous for at least 6 sessions per week with no more than one session per day to be counted for the purposes of this Order;
2. That Respondent shall have a urinalysis done randomly, supervised, and at least once per week in a program approved by the Commission with copies of the results provided to the Commission.

The Order further provided that

(I)f Respondent violates any of the foregoing conditions of probation, the stay on the suspension may be lifted and the Commission, after notification, a hearing, and determination of violation, may impose any additional disciplinary sanctions it deems appropriate.

Respondent did not appeal from the Order. On November 23, 1988 the Board of Physician Quality Assurance, the successor agency under Senate Bill 508 to the Commission on Medical Discipline, charged Respondent with violation of the June 21, 1988 Order. Specifically the Board charged that Respondent violated the following conditions of probation.

1a. Respondent shall participate in group therapy at a group therapy program approved by the Commission, at least one session per week;

1b. Respondent shall participate in individual therapy at an individual therapy program approved by the Commission, for at least one session per week, with the health professional providing the individual therapy to issue a report of Respondent's progress to the Commission every six months, the first report to be issued one month after the date of this Order.

1c. Respondent shall participate in Narcotics Anonymous for at least 6 sessions per week with no more than one session per day to be counted for the purposes of this Order;

2. [That] Respondent shall have a urinanalysis done randomly, supervised, and at least once per week in a program approved by the Commission with copies of the results provided to the Commission.

Respondent was served with the Board's charges on November 23, 1988, and by letter dated November 30, 1988 a copy of the Charges were sent to Respondent's attorney of record. A hearing was scheduled on Wednesday, December 14, 1988 at 1 p.m. Respondent requested a postponement and agreed not to return to the practice of medicine until such time as the charges against him were resolved. The hearing was scheduled for January 11, 1989 at 3 p.m. before the Board, and held that day.

Board members heard evidence in the case. Respondent acknowledged that he understood that he was entitled to be requested a postponement, and Respondent stated that he wanted to proceed with the hearing.

On the record, Dr. Weiner explained to the State and Respondent the procedures that would be followed in the hearing. Dr. Weiner stated that the hearing was on the issue of whether Dr. Azzato had violated the conditions of probation of the June 21, 1988 Order as set forth in the Board's charging document of November 23, 1988. The State would have the burden of going forward, the burden of proof and the standard of proof was clear-and-convincing evidence. Both the State and the Respondent waived their rights to present opening statements and closing arguments.

The State introduced the following documentary evidence.

[1] On December 18, 1987 the Commission summarily suspended Respondent's license pursuant to State Government Article, 10-405(b). Respondent had not been practicing medicine since that date.

1. The Order of June 21, 1988 consisting of nine (9) pages.

2. A report for the National Health Laboratories of Vienna, Virginia on results on urine screens consisting of three (3) pages.

3. A letter dated 9/20/88 from Joseph A. Jurand MD to "Dear Sir or Madam" received by the Maryland State Board of Physician Quality Assurance on September 29, 1988 consisting of one (1) page.

4. A letter dated October 14, 1988, from Judith Griffith.

5. An undated hand-written letter from Respondent to Judith Griffith received by the Maryland State Board of Physician Quality Assurance dated October 31, 1988, consisting of four (4) pages which forwarded three (3) pages of certification of attendance from Narcotics Anonymous.

6. An undated letter from Beverly M. McLeod, Manager of the National Health Laboratories received by the Maryland State Board of Physician Quality Assurance on November 7, 1988 consisting of one (1) page.

7. A report of the National health Laboratories of Vienna, Virginia on the results on urine screens consisting of six (6) pages; and

8. A package entitled "Addendum to Closed Agenda Packet, Nicholas Azzato MD, November 9, 1988, Confidential" consisting of thirty four (34) pages.

Findings of Fact

Based on the evidence presented at the Hearing on Violation of Probation, the Board of Physician Quality Assurance, by a majority vote of those members hearing the evidence, finds as follows:[2]

1. Respondent has been attending individual therapy sessions once a week and has been attending two (2) group therapy sessions a week.

2. Neither the Board of Physician Quality Assurance nor the Commission on Medical Discipline approved the individual or group therapy programs.

3. Respondent attended Narcotics Anonymous on the following days in the following months.

a. August 1988: the 2nd, the 9th, the 13th, the 20th, and the 24th for a total of five (5) times.

b. September 1988: the 6th, the 13th, the 10th, the 14th, the 20th and the 28th for a total of six (6) times.

c. October 1988: the 8th, the 22nd and the 26th for a total of three (3) times.

4. From August 1, 1988 until October 31, 1988 there are thirteen weeks. Respondent was required to attend seventy-eight (78) Narcotics Anonymous sessions. Respondent attended fourteen (14) Narcotics Anonymous sessions.

5. Respondent has not attended Narcotics Anonymous six (6) times a week.

6. Respondent was required to give urine samples at least once a week from the date of the Order of June 21, 1988.

7. Respondent gave urine samples on the following days 8/22/88; 9/09/88; 9/21/88; 10/05/88; 10/14/88; 10/20/88; 10/27/88; 10/31/88; and 11/09/88 for a total of nine (9) times.

8. From August 1, 1988 until November 9, 1988 there are fourteen (14) weeks. Respondent gave urine samples nine (9) times.

9. Respondent did not give urine samples at least once a week.

10. Ms. Griffith testified that when she talked to Ms. McCleod from the National Health Laboratories of Vienna, VA regarding the urine samples given by Respondent Ms. McCleod stated that the urine samples were unsupervised. The evidence submitted by the state indicated that the Board had received a letter from Ms. McCleod that the urine samples were supervised. The letter submitted by Ms. McCleod was undated and was not on a letterhead. (There was a handwritten letterhead inserted although the letter was typed.) The letter did not indicate the protocol for observing the urine samples. The letter also indicated that the urine samples were given randomly. Respondent testified that he did not give random samples but went to the Laboratory on his own. The Board does not find the letter credible. The Board finds Ms. Griffith's testimony as to her conversation with Ms. McCleod credible.

11. Respondent has not given supervised urine samples.

12. Respondent has not given random urine screenings.

13. Respondent's urine screen program was approved by neither the Board nor the Commission.

Conclusions of Law

Based on the foregoing Findings of Fact, the Board, by a majority vote of the members of the Board considering this case, finds that Respondent VIOLATED conditions of probation of the June 21, 1988 Order as follows:

1a. Respondent DID NOT participate in group therapy at a group therapy program approved by the Commission;

1b. Respondent DID NOT participate in individual therapy at an individual therapy program approved by the Commission;

1c. Respondent DID NOT participate in Narcotics Anonymous for at least 6 sessions per week;

2. Respondent DID NOT have a urinanalysis done randomly, supervised, and at least once per week in a program approved by the Commission.

Order

Based on the foregoing Findings of Fact and Conclusions of Law, it is this 30th day of January 1989 by a

[2] Israel H. Weiner MD, Chair, after conducting the hearing recused himself from any consideration of the findings of fact, conclusions of law and order in this case.

majority vote of those members of the Board of Physician Quality Assurance of Maryland who considered this case:

ORDERED that Respondent's license to practice medicine in the State of Maryland, heretofore issued to the Respondent is hereby SUSPENDED for three (3) years; and be it further

ORDERED that Respondent SHALL comply with the following conditions of PROBATION:

1. Respondent must remain drug and alcohol free.

2. Respondent must attend two (2) group therapy sessions a week in a program approved by the Board. The Board will submit to Respondent within fourteen (14) days from the date of the Order a list of approved therapists in Respondent's geographical area. The psychiatrist shall not be an individual with whom the Respondent has a personal or former collegial relationship. If the Respondent has a personal or collegial relationship with any therapist on the list the Respondent shall inform the Board fourteen (14) days from the date of receipt of the list and the Board will submit another name.

3. Respondent must attend individual therapy sessions with a psychiatrist who is knowledgeable in drug and alcohol abuse and is approved by the Board. The Board will submit to Respondent within fourteen (14) days from the date of the Order a list of at least three (3) approved therapists in Respondent's geographical area. The psychiatrist shall not be an individual with whom the Respondent has a personal or former collegial relationship. If the Respondent has a personal or collegial relationship with any therapist on the list the Respondent shall inform the Board fourteen (14) days from the date of receipt of the list and the Board will submit another name.

4. The therapist must submit to the Board a monthly report indicating how Respondent is coping with his problems that led to his dependence on chemical substances. The report will be due the first Monday of every month. In the event that Respondent terminates therapy prior to discharge by the therapist the therapist shall immediately notify the Board in writing;

5. Respondent must attend three (3) Narcotics Anonymous meetings or Alcoholic Anonymous meetings each week and submit certification of attendance to the Board by a letter postmarked each Monday.

6. Respondent must have supervised random urine screens performed at least once a week in a program whose protocols are approved by the Board. The protocols must contain a provision for verifying a positive screen. Once the protocols are approved by the Board they are incorporated herein by reference. The urine screens must test for marijuana as well as cocaine and alcohol. The results of the urine screens must be sent to the Board and the Respondent's therapist.

7. Respondent shall take hundred (100) credits of continuing education, approved by the Board within six (6) months of the date of this Order. These credits of continuing education may be counted as part of the continuing education requirements necessary for renewal of Respondent's license.

8. Within thirty (30) days of the date of this Order, Respondent must enter into a contract with the Impaired Physicians' Rehabilitation Committee at the Medical and Chirurgical Faculty (the "Committee") and comply with all terms of the contract. The contract must be approved by the Board and must provide that the Committee will notify the Board if Respondent fails to comply with ANY term of the contract. The contract must indicate who is Respondent's contact person, and who will be the person monitoring Respondent's compliance with the contract. The contract, once approved, will be incorporated herein by reference. The Committee shall provide the Board with monthly reports, the first due on the first Monday of every month indicating whether Respondent is in compliance with the terms of his contract; and be it further

ORDERED that six (6) months from the date of this Order Respondent may petition the Board to stay the suspension of his license in order that he may practice medicine. Respondent must submit evidence that he has complied with all terms of probation. Respondent must present to the Board his plans for returning to the practice in order to assure that the public health, welfare, and safety are protected. These limits may include that Respondent's medical practice will be supervised and/or evaluated, and may prohibit Respondent from prescribing controlled dangerous substances. At that time the Board may revise their terms of Respondent's probation and re-evaluate Respondent's need for continued therapy. The Board may request that Respondent's therapist address the Board as to the progress Respondent has made in therapy; and be it further

ORDERED that if the Respondent violates any of the foregoing conditions of probation, the Board, after notification and a hearing may discontinue the Respondent's probation and impose any disciplinary sanctions it deems appropriate including revocation of Respondent's license; and be it further

ORDERED that if the Board receives a report from the Committee, Respondent's supervisor or therapist indicating that Respondent is not drug or alcohol free the Board, WITHOUT PRIOR NOTICE AND AN OPPORTUNITY TO BE HEARD MAY REVOKE RESPONDENT'S LICENSE, provided that Respondent is given immediate notice of the charges and an opportunity to be heard thirty (30) days after requesting same; and be it further

ORDERED that this a final order.

FRANK A. GUNTHER JR., Vice Chair
Maryland Board of Physician Quality Assurance

In the Matter of
Reza Feiz MD
Before the
Maryland Board of
Physician Quality Assurance

Order Terminating Probation and Reinstating License

By Order (attached hereto) dated June 18, 1985 (the "1985 Order"), the Board of Physician Quality Assurance (the "Board"), successor agency to the Commission on Medical Discipline, found Reza Feiz MD (the "Respondent") guilty of committing a prohibitive act as set forth in Health Occupations Article, *Annotated Code of Maryland* ("HO") -14-504. Specifically, the Board found that Respondent pled guilty to *nolo contendere* with respect to a crime involving moral turpitude whether or not any appeal or other proceeding is pending to have the conviction or plea set aside (recodified as 14-504(b)(1) of the Health Occupations Article). The Board suspended the medical license of Respondent, immediately staying the suspension, conditioned upon the Respondent complying with conditions of probation (the "Conditions of Probation"). The Order further provided that after three (3) years from the date of the Order, if the Respondent demonstrated to the Board's satisfaction that he had complied with the terms and conditions of his probation, the Board would entertain a petition for termination of Respondent's probationary status and reinstatement of his medical license. By letter dated June 29, 1988, Respondent petitioned for reinstatement of his license to practice medicine in Maryland. At its meeting on December 14, 1988, the Board reviewed Respondent's petition for reinstatement. Based on its review of the petition, the Board determined that Respondent had fulfilled the Conditions of Probation contained in the 1985 Order.

Findings of Fact

Based on the information known and available to it, the Board finds that:

1. Respondent has not engaged in activities of the type that led to his criminal conviction;
2. Respondent has obeyed all laws;
3. Respondent arranged for the results of record checks performed as a condition of his Court ordered probation to be forwarded to the Board;
4. Respondent continued with his treating psychotherapist until the Board was notified that such treatment was no longer recommended;
5. Respondent arranged for the forwarding of a psychiatric report to the Board every six (6) months for the duration of his probation;
6. Respondent practiced only under supervision or under an alternative arrangement approved by the Board;
7. Respondent did not undertake to treat on a regular basis children or adolescents without applying to the Board for approval; and
8. Respondent arranged for his supervisor to forward a report of his performance every six (6) months for the duration of his probation.

Conclusions of Law

The Board concludes, as a matter of law, that Respondent has satisfactorily complied with all conditions as set forth in the Order of June 18, 1985.

Order

Upon the foregoing Findings of Fact and Conclusions of Law, it is this 14th day of December 1988 by a unanimous vote of a quorum of the Board

ORDERED that effective as of the date of this Order, the Conditions of Probation imposed upon Respondent's practice of medicine by the Board's 1985 Order are hereby TERMINATED and of no further force and effect; and be it further

ORDERED that Respondent's license to practice medicine in the State of Maryland be REINSTATED without any condition or restriction whatsoever; AND IT IS FURTHER

ORDERED that this is a Final Order.

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

■ ■ ■

In the Matter of
Rashid Gill MD
Before the
Maryland Board of
Physician Quality Assurance

Order Terminating Probation and Reinstating License

By Order (attached hereto) dated March 18, 1986 (the "1986 Order"), the Board of Physician Quality Assurance (the "Board"), successor agency to the Commission on Medical Discipline, found Rashid Gill MD (the "Respondent") guilty of committing a prohibitive act as set forth in Health Occupations Article, *Annotated Code of Maryland* ("HO") 14-504. Specifically, the Board found that Respondent practices medicine with an unauthorized person or aids an unauthorized person in the practice of medicine (recodified as 14-504(a)(18) of the Health Occupations Article). The Board suspended the medical license of Respondent, immediately staying the revocation, conditioned upon the Respondent complying with terms and conditions (the "Conditions of Probation"). The Order further provided that after two (2) years from the date of the Order, if the Condi-

tions of Probation have not been violated, the Board would entertain a petition for termination of Respondent's probationary status and reinstatement of his medical license.

On July 8, 1988 Respondent petitioned the Board for reinstatement of his license to practice medicine in Maryland. At its meeting on September 14, 1988, the Board reviewed Respondent's petition for reinstatement. Based on its review of the petition, the Board determined that Respondent had fulfilled the Conditions of Probation contained in the 1986 Order.

Findings of Fact

Based on the information known and available to it, the Board finds that:

1. Respondent did not engage in a contract of employment that would result in the practice of medicine with an unauthorized person or require the Respondent to aid an unauthorized person in the practice of medicine;
2. Respondent submitted to the monitoring of his prescriptions for controlled dangerous substances by submitting on a monthly basis beginning the first Monday in the month following the issuance of this Order, copies of all prescriptions containing controlled dangerous substances on prescription forms mechanically numbered in seriation; and
3. The Chairman of the Committee on Drugs concluded that further review or monitoring of Dr. Gill's practice was not necessary.

Conclusions of Law

The Board concludes, as a matter of law, that Respondent has satisfactorily complied with all conditions as set forth in the Order of March 18, 1986.

Order

Upon the foregoing Findings of Fact and Conclusions of Law, it is this 14th day of September 1988 by a unanimous vote of a quorum of the Board:

ORDERED that effective as of the date of this Order, the Conditions of Probation imposed upon Respondent's practice of medicine by the Board's 1986 Order are hereby TERMINATED and of no further force and effect; and be it further

ORDERED that Respondent's license to practice medicine in the State of Maryland be REINSTATED without any condition or restriction whatsoever; AND IT IS FURTHER

ORDERED that this is a Final Order.

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

■ ■ ■

In the Matter of Francis A. Zampiello MD

Before the Maryland Board of Physician Quality Assurance

Final Consent Order

Based on information received from the Massachusetts Board of Registration in Medicine, the Board of Physician Quality Assurance (the "Board") charged Francis A. Zampiello MD ("Respondent") under 14-504(21) and (25) of the Maryland Medical Practice Act, (the "Act"), Title 14, Health Occupations Article, *Annotated Code of Maryland*. Section 14-504 of the Act permits the Board to impose sanctions on a licensee who:

> (21) Is disciplined by a licensing or disciplinary authority or convicted or disciplined by a court of any state or country or disciplined by any branch of the United States uniformed services or the Veterans' Administration for an act that would be ground for disciplinary action under [Section 14-504], to wit: Section 14-504(4) Is professionally, physically or mentally incompetent; or
>
> (25) Was subject to investigation or disciplinary action by a licensing or disciplinary authority or by a court of any state or country for an act that would be ground for disciplinary action under [Section 14-504], to wit: Section 14-504(4), and the licensee:
>
> (ii) Allowed the license issued by the state or country to expire or lapse.

In November 1988 the Respondent was notified by letter of these charges and the factual basis of the charges. On January 4, 1989, the Respondent attended a Settlement Conference. During the course of that conference, the Respondent agreed to enter into a Consent Agreement with the Board, thereby consenting to the following Findings of Fact, Conclusions of Law, and Order.

Findings of Fact

The Board makes the following findings of fact:

1. The Respondent, Francis A. Zampiello MD, was and is licensed to practice medicine in the State of Maryland at all times relevant to the charges herein.
2. The Respondent was licensed to practice medicine in the Commonwealth of Massachusetts from the year 1970 to February 15, 1982.
3. The Massachusetts Board of Registration in Medicine initiated an investigation of the Respondent on July 12, 1978. This investigation focused on the Respondent's allegedly incompetent treatment of his five-year-old patient, who died of epiglottitis on June 25, 1978 while under his care.

4. With respect to that investigation, Adjudicatory Case No. 533-EG was commenced against Respondent before the Massachusetts Board of Registration of Medicine by an *Order to Show Cause* issued on April 17, 1980 and mailed to the Respondent on the same date.

5. On June 29, 1981, having received a copy of *Complaint Counsel's Motion to Compel Respondent to File an Answer to the Order to Show Cause*, Respondent denied having received the *Order to Show Cause* and requested a copy.

6. On July 6, 1981, Massachusetts Complaint Counsel, James Barrett, mailed a copy of the *Order to Show Cause* to Respondent.

7. During 1982, Respondent failed to renew his Massachusetts license to practice medicine and allowed his license to lapse on February 15, 1982 while he was still subject to disciplinary action by reason of Adjudicatory Case No. 533-EG.

8. On August 2, 1982, the Massachusetts Board issued an Amended *Order to Show Cause* in Case No. 533-EG.

9. On November 18, 1987, the Massachusetts Board of Registration in Medicine issued the attached Order, which is incorporated into these Findings, disciplining the Respondent for violations of Massachusetts General Laws Ch. 112, Sec. 5 (a)(3) and (61). With respect to the Respondent's treatment of Nicole Alves, the Massachusetts Board specifically found the Respondent guilty of conduct, including gross negligence, demonstrating his incompetence to practice medicine.

10. Section 14-504(4) of the Maryland Act allows the Board to discipline and impose sanctions against a licensee on the ground that the licensee is professionally, physically, or mentally incompetent.

Conclusions of Law

Based on the foregoing Findings of Fact, the Board hereby concludes as a matter of law that the Respondent is GUILTY of having been disciplined by a licensing of disciplinary authority...of any state... for an act that would be ground for discipline under [the Act], to wit: Section 14-504(4) of the Act [Section 14-504(21)]. The Board DISMISSES the charge of 14-504(25) of the Act.

Order

Based on the foregoing Findings of Fact and Conclusions of Law, it is hereby ORDERED this 14th day of January 1989, that the Respondent is hereby REPRIMANDED; and be it further

ORDERED that within one year from the date of this Order, the Respondent must complete fifty (50) hours of continuing education (category one) in pediatric medicine and provide the Board with documentation proving that he has done so; and be it further

ORDERED that if the Respondent chooses to practice clinical medicine in the State of Maryland at some future date, he shall notify the Board, provide evidence demonstrating his competence to practice clinical medicine and obtain Board approval prior to practicing clinical medicine in Maryland.

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

Consent

By this Consent, I hereby admit the truth of the Findings of Fact, and accept and submit to the foregoing Order and its conditions. I acknowledge the validity of the Order as if made after a hearing in which I would have had the right to counsel, to confront witnesses, to give testimony, to call witnesses on my own behalf, and to all other substantive and procedural protections provided by law. I also recognize that I am waiving my right to appeal any adverse ruling of the Board that might have followed any such hearing. By this consent, I waive all such rights and acknowledge that by my failure to abide by the conditions of the Order, I may suffer disciplinary action against my license to practice medicine in the State of Maryland.

I sign this Order without reservation, and I fully understand its meaning.

FRANCIS A. ZAMPIELLO MD ■

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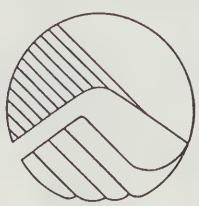
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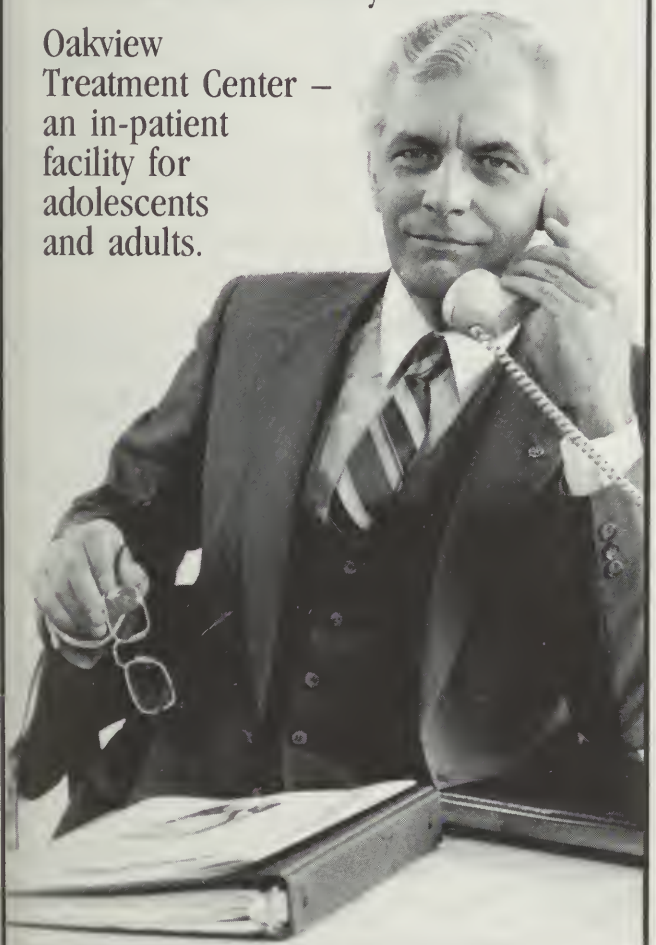
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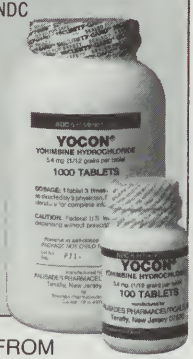
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References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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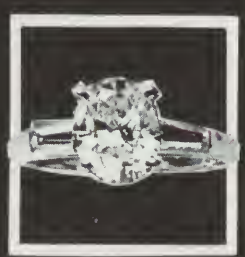
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Jun 14-17 **Baltimore Perinatal Colloquium.** Fee: physicians $375, residents $200; 23.5 AMA Cat I credits, ACOG cognates available. Info: J. Ryan 301-955-2959.

Jun 30 **The Retinal Vascular Center 19th Anniversary Meeting: Macula,** The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

Sep 11-13 **1989 Interventional Neuroradiology.** Fee: $550 physicians, $350 residents, fellows (with verifying letter), and technicians; 26.5 AMA Cat I credits. Info: F. Boling 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: May 8-12, Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA Cat I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

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CME Courses: *For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956).*

May 5 **Ninth Annual Albraham H. Finkelstein Memorial Lecture**, Davidge Hall (22 S. Greene St., Baltimore), 1:30 p.m. Reception to follow. Approved for CME credit.

May 5-6 **Second Symposium on Current Practices and Concepts in Endocrinology and Metabolism**, Harbor Court Hotel, Baltimore. Fee: $140; 10 AMA Cat I credits.

May 5-7 **Surviving Emergency Stress**, sponsored by Emergency Health Services Dept, UMBC; MIEMSS, and the Charles McC. Mathias Jr. National Study Center for Trauma and Emergency Medical Systems. Fee: $145 or $50/day; certificate of attendance provided, CME credits applied for. Info: J. Mitchell 301-455-3223.

Jun 1-4 **Second Annual Trauma Anesthesia and Critical Care Symposium**, sponsored by the Maryland Institute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Development, 11 South Paca St. - Ste 303, Baltimore, MD 21201 (301-328-2399).

Jun 14-17 **Dermatology Days**, Sheraton Fontainebleau Inn, Ocean City. Fee: $250; 12 AMA Cat I credits.

Jun 18-23 **Fifteenth Annual Family Medicine Review Course,** Sheraton Fontainebleau, Ocean City. Fee: $395; 25 AMA Cat I and AAPP credits.

Jun 29-30 **Eighth Annual Update in Obstetrics and Gynecology**, Maryland State House, Senate Hearing Room & Historic Inns of Annapolis. Fee: $175; 14 AMA Cat I credits and 14 ACOG credits.

Sep 15 **Current Concepts in Ophthalmology: Ninth Annual Clinical Conference**, Hyatt Regency Baltimore. Fee: $60; 6 AMA Cat I credits.

Sep 19-20 **Behavioral Pediatrics Conference**, UMAB MSSTF Auditorium. Fee and credits TBA.

Sep 21-23 **Fifth Annual University of Maryland Contact Lens Symposium**, Sheraton Inner Harbor Hotel, Baltimore. Fee: $160; 12 AMA Cat I credits.

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

May 18-19 - Provider
Jun 15-16 - Provider
Jul 13-14 - Provider
Aug 17-18 - Provider
Sep 13-15 - Instructor
Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider

Miscellaneous Meetings

May 5 **Brief Topics in Chemical Dependency**, noon - 1:15 p.m. (lunch provided), Psychiatric Institute of Washington, 4460 MacArthur Blvd. NW, Washington. No charge: *registration required, limited to 75.* 202-965-8220.

May 8-10 **Sunlight, Ultraviolet Radiation, and the Skin**, NIH Consensus Development Conference, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: K. Edmunds 301-468-MEET.

May 12-13 **Annual Meeting, The Virginia Society of Ophthalmology**, Homestead Resort, Hot Springs, VA. Info: D. Strawderman 804-353-2721.

May 13-14 **Breast Reconstruction following Cancer Treatment**, Sheraton Inner Harbor Hotel, Baltimore. Sponsored by the American Cancer Society, Maryland Division, Inc. Info: K. Unitas 301-328-2399.

May 14-17 **1989 American Trauma Society Annual Meeting**, Crystal Gateway Marriott Hotel, Arlington, VA. Info: V. Hutchinson 800-556-7890, 301-925-8811.

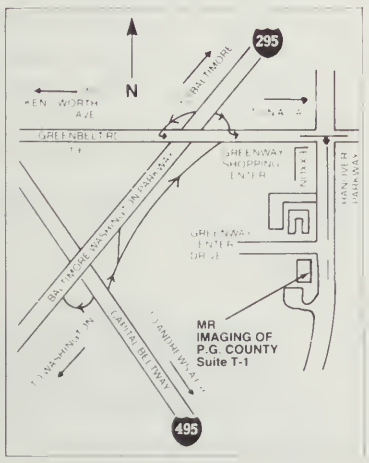
Jun 5-9 **EVMS Family Medicine Review Course - Fifth Edition**, Sheraton Beach Inn, Virginia Beach, VA. Info: 804-446-6140.

Sep 8-9 **Current Controversies and Techniques in Congenital Heart Surgery**, sponsored by the Section of Thoracic and Cardiovascular Surgery of the Univ of Nebraska College of Medicine, Omaha. Precedes the Society of Thoracic Surgeons Annual Meeting. Info: T. Young 301-328-2399. ■

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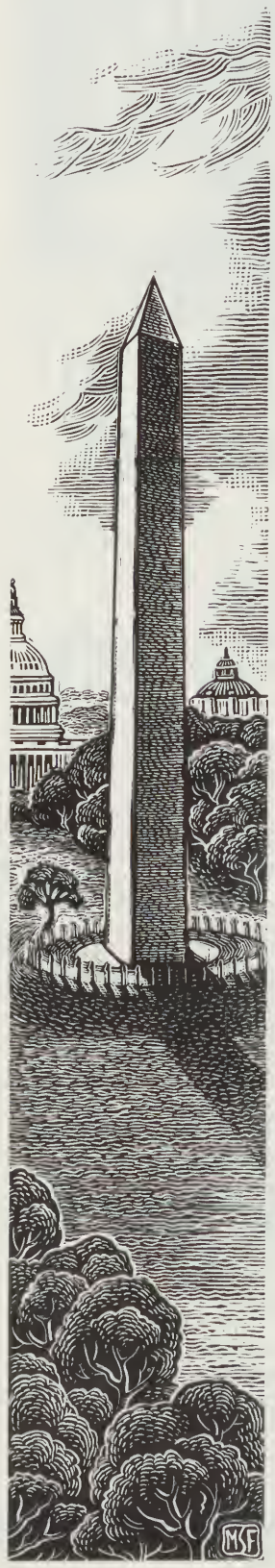
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1. Data on file, Lilly Research Laboratories.

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Brief Summary

Consult the package literature for complete information.

Indications and Usage: Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer. In most patients, the ulcer will heal within four weeks.

Axid is indicated for maintenance therapy for duodenal ulcer patients at a reduced dosage of 150 mg h.s. after healing of an active duodenal ulcer. The consequences of continuous therapy with Axid for longer than one year are not known.

Contraindication: Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other H_2-receptor antagonists.

Precautions: *General* — 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency.

3. Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests — False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

Drug Interactions — No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility — A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice; although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy — Teratogenic Effects — Pregnancy Category C — Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers — Studies conducted in lactating women have shown that <0.1% of the administered oral dose of nizatidine is secreted in human milk in proportion to plasma concentrations. Caution should be exercised when administering nizatidine to a nursing mother.

Pediatric Use — Safety and effectiveness in children have not been established.

Use in Elderly Patients — Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among reported adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs < 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine.

Hepatic — Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients and was possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L) and, in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular — In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

CNS — Rare cases of reversible mental confusion have been reported.

Endocrine — Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic — Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H_2-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental — Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity — As with other H_2-receptor antagonists, rare cases of anaphylaxis following administration of nizatidine have been reported. Because cross-sensitivity in this class of compounds has been observed, H_2-receptor antagonists should not be administered to individuals with a history of previous hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other — Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine administration have been reported.

Overdosage: Overdoses of Axid have been reported rarely. The following is provided to serve as a guide should such an overdose be encountered.

Signs and Symptoms — There is little clinical experience with overdosage of Axid in humans. Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous median lethal doses in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

Treatment — To obtain up-to-date information about the treatment of overdose, a good resource is your certified regional Poison Control Center. Telephone numbers of certified poison control centers are listed in the *Physicians' Desk Reference (PDR)*. In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs, and unusual drug kinetics in your patient.

If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance.

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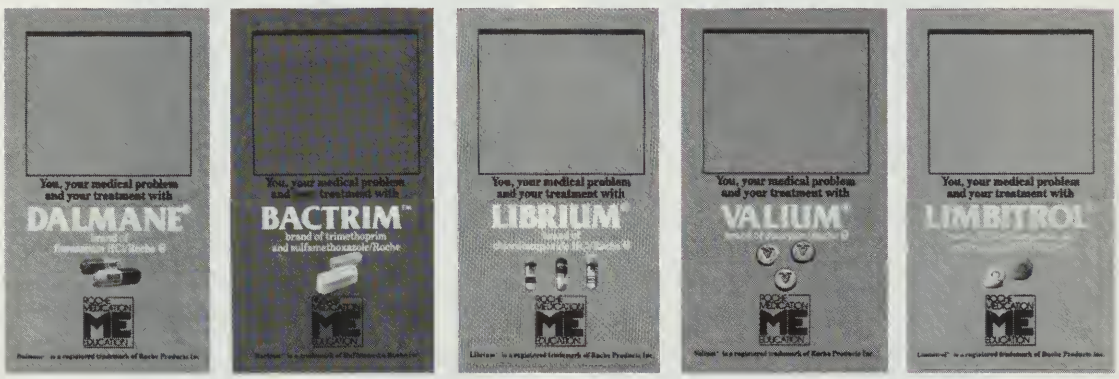
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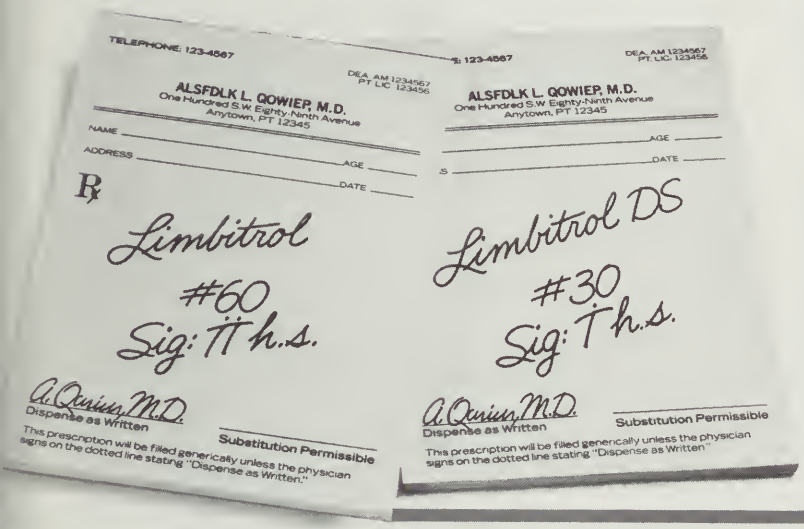
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Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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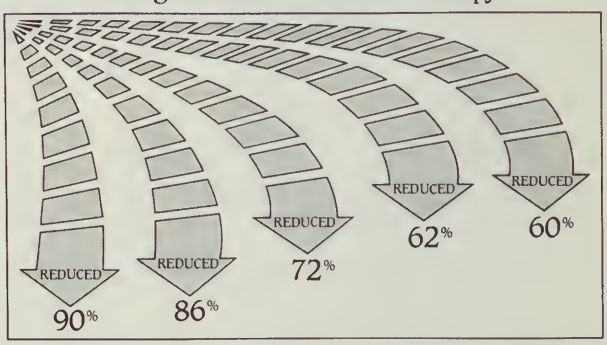
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Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

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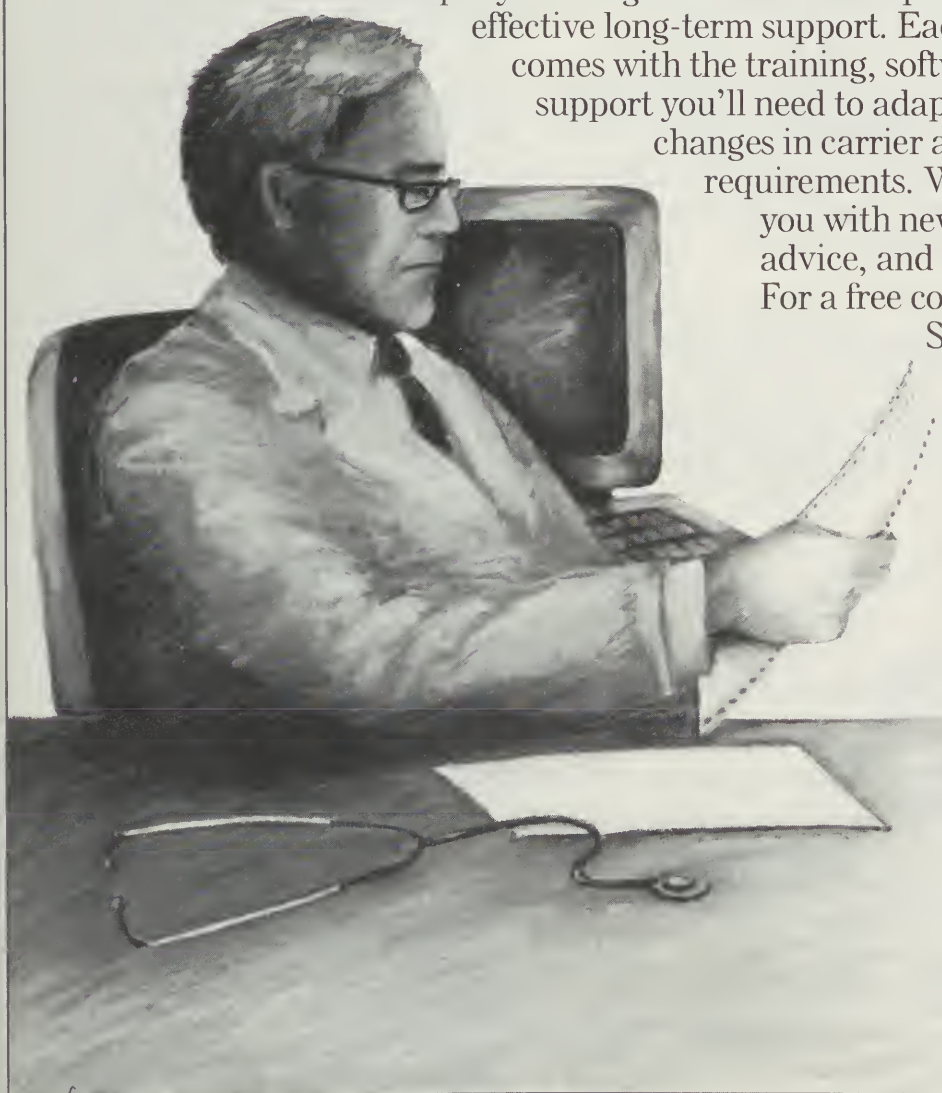


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Clinical Experience with Ketoprofen in the Management of Osteoarthritis and Rheumatoid Arthritis 485
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Predictors of Rehabilitation Outcome among Patients with SCI 489
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Include full name of author(s) with highest degree, academic and professional titles, affiliations, and any institutional or other credits.

Tables with brief descriptive titles are to be typed on separate sheets of paper and numbered. The Editor reserves the right to edit tables. Statistics must be consistent in both tables and text.

References are limited to those citations noted in the text and are to be typed double spaced and numbered consecutively as they appear in text. The number of references generally is limited to 20 in major contributions and fewer in shorter articles. Personal communications and unpublished data should not be included.

Photographic material must be submitted as high-contrast glossy prints. Drawings and graphs must be of professional quality. Four or fewer illustrations should be adequate for a manuscript of 4 or 5 typed pages. Recognizable photos of patients are to be masked and should carry with them written permission for publication.

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> Concern is mounting among public officials and analysts that a financial crisis is brewing in the insurance industry.
>
> * * *
>
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> *New York Times, April 15, 1989, Front Page*

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JUNE 1989

CONSENT FORMS FOR POLIO AND ORAL POLIO VACCINE AND DIPHTHERIA, TETANUS, AND PERTUSSIS AND DTP, DT, AND TD VACCINES

Physicians have to provide adequate information to patients prior to administration of polio and DTP vaccines. The consent forms used in public health clinics may be useful in ensuring all pertinent facts are told to the patient prior to the administration of the vaccines. Following are the current copies of the consent forms, and these may be duplicated as necessary. Periodic revisions occur, with a major revision anticipated in early 1990.

IMPORTANT INFORMATION ABOUT POLIO AND ORAL POLIO VACCINE

Please read this carefully

OP 3/1/83

WHAT IS POLIO? Polio is a virus disease that may cause permanent crippling (paralysis) and occasionally death. There used to be thousands of cases and hundreds of deaths from polio every year in the United States. Because of the widespread use of polio vaccines, which became available beginning in the mid-1950's, polio disease has nearly been eliminated from the United States. Although thousands of cases continue to occur each year in the rest of the world, in the United States during the past 5 years there have been only 67 cases of polio reported, an average of 13 cases per year. Our success in preventing the spread of wild polio virus has been so great that most of the recent cases (approximately nine per year) have resulted from the rare side effects of oral polio vaccine (see below). Because of this fact, some people have asked why we should continue to use polio vaccine. The reason is that, even though we may not have much wild polio virus spreading here now, there is so much of it in the rest of the world that there is a great risk of its being reestablished if our children are not vaccinated.

ORAL LIVE POLIO VACCINE: Immunization with oral live polio vaccine (OPV) is one of the best ways to prevent polio. It is given by mouth starting in early infancy. Several doses are needed to provide good protection. Young children should get two or more doses in the first year of life and another dose at about 18 months of age. An additional dose is important for children when they enter school or when there is a high risk of polio, for example, during an epidemic or when traveling to a place where polio is common. The vaccine is easy to take and is effective in preventing the spread of polio. In over 90 percent of people, OPV gives protection for a long time, probably for life. Because OPV viruses live for a time in the intestinal tract of the person who is vaccinated, some of the viruses pass in the stool and can spread from the vaccinated person to those in close contact (usually household members). This may help to immunize these persons and is one of the advantages of OPV. The Immunization Practices Advisory Committee of the Public Health Service and the American Academy of Pediatrics recommend oral live polio vaccine as the preferred polio vaccine for people up to the 18th birthday.

POSSIBLE SIDE EFFECTS FROM THE VACCINE: OPV very rarely (once in about every 8.1 million doses of OPV distributed) causes paralytic polio in the person who is vaccinated. The risk may be slightly higher in adults being vaccinated and substantially higher in persons with abnormally low resistance to infection. Also very rarely (once in about every 5 million doses of OPV distributed) paralytic polio may develop in a close contact of a recently vaccinated person. Even though these risks are very low, they should be recognized. The risk of side effects from the vaccine must be balanced against the risk of the disease, both now and in the future.

(PLEASE READ OTHER SIDE)

PREGNANCY: Polio vaccine experts do not think oral polio vaccine can cause special problems for pregnant women or their unborn babies. However, doctors usually avoid giving any drugs or vaccines to pregnant women unless there is a specific need. Pregnant women should check with a doctor before taking oral polio vaccine.

WARNING—SOME PERSONS SHOULD NOT TAKE ORAL POLIO VACCINE WITHOUT CHECKING WITH A DOCTOR:

- Anyone with cancer, leukemia, or lymphoma.
- Anyone with a disease that lowers the body's resistance to infection.
- Anyone taking a drug that lowers the body's resistance to infection, such as cortisone or prednisone.
- Anyone who lives in the same household with anyone who has one of the conditions listed above.
- Anyone who is sick right now with something more serious than a cold.
- Pregnant women.
- Most persons age 18 and older because adults have a slightly bigger risk of developing paralysis from oral polio vaccine than children (However, if the risk of polio is increased-as may occur, for example, when there is an outbreak in your community-most polio experts recommend that unprotected persons receive oral polio vaccine regardless of age.)

NOTE ON INJECTABLE (KILLED) POLIO VACCINE: Besides the oral polio vaccine (OPV), there is also a killed polio vaccine (IPV) given by injection which protects against polio after several shots. This killed polio vaccine has no known risk of causing paralytic polio. Because OPV may provide lifetime protection, seems to provide stronger immunity in the intestinal tract (where infection first occurs), is simpler to administer, and is more effective in preventing the spread of polio virus than IPV, most polio experts feel that oral vaccine is more effective for controlling polio in the United States. Injectable polio vaccine is recommended for persons needing polio vaccination who have low resistance to serious infections or who live with persons with low resistance to serious infections. It may also be recommended for previously unvaccinated adults who plan to travel to a place where polio is common or for previously unvaccinated adults whose children are to be vaccinated with OPV. It is not widely used in this country at the present time, but it is available. If you would like to know more about this type of polio vaccine, or wish to receive this vaccine, please ask us.

QUESTIONS: If you have any questions about polio or polio vaccination, please ask us now or call your doctor or health department before you sign this form.

REACTIONS: If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic in the 4 weeks after vaccination, please report it to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

I have read the information on this form about polio and the oral vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of oral polio vaccine and request that it be given to me or to the person named below for whom I am authorized to make this request.

OP 3/1/83

INFORMATION ON PERSON TO RECEIVE VACCINE (Please Print)				
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Address				
City	County		State	Zip
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Signature of person to receive vaccine or person authorized to make the request.				Date

FOR CLINIC USE
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Site of injection

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VACCINE HISTORY: PLACE CHECK ☐ IN BOX IF HISTORY PREVIOUSLY SUBMITTED

DTP:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	MEASLES: m/d/yr	MUMPS:	m/d/yr
POLIO:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	RUBELLA: m/d/yr		

IMPORTANT INFORMATION ABOUT DIPHTHERIA, TETANUS, AND PERTUSSIS AND DTP, DT, AND Td VACCINES

Please read this carefully **DTP 1/1/88**

WHAT IS DIPHTHERIA?

Diphtheria is a very serious disease which can affect people in different ways. It can cause an infection in the nose and throat which can interfere with breathing. It can also cause an infection of the skin. Sometimes it causes heart failure or paralysis. About 1 person out of every 10 who get diphtheria dies of it.

WHAT IS TETANUS?

Tetanus, or lockjaw, results when wounds are infected with tetanus bacteria, which are often found in dirt. The bacteria in the wound make a poison which causes the muscles of the body to go into spasm. In the United States, four out of every 10 persons who get tetanus die of it.

WHAT IS PERTUSSIS?

Pertussis, or whooping cough, causes severe spells of coughing which can interfere with eating, drinking, and breathing. In the United States, approximately 70 percent of reported pertussis cases occur in children younger than 5 years. Pertussis is a more serious disease in young children and more than half of the children less than 1 year of age reported to have pertussis are hospitalized. In recent years, over 2,000 cases of pertussis have been reported each year in the United States. Complications occur in a substantial proportion of reported cases. Pneumonia occurs in one of every four children with pertussis. For every 1,000 reported pertussis cases, 22 develop convulsions and/or have more severe problems of the brain. In recent years, an average of nine deaths due to pertussis occurred annually.

Before vaccines were developed, these three diseases were all very common and caused a large number of deaths each year in the United States. If children are not immunized, the risk of getting these diseases will go back up again.

DTP, DT, AND Td VACCINES:

Immunization with DTP vaccine is the best ways to prevent these diseases. DTP vaccine is actually three vaccines combined into one shot to make it easier to get protection. Advisory committees of the United States Public Health Service and the American Academy of Pediatrics recommend DTP vaccine be used in children up to their seventh birthday. The vaccine is given by injection starting early in infancy. At least three shots are needed to provide initial protection. Young children should get three doses in the first year of life and a fourth dose at about 15 months of age. A booster shot is important for children who are about to enter school and should be given between their fourth and seventh birthdays. The vaccine is very effective at preventing tetanus—over 95 percent of those who get the vaccine are protected if the recommended number of shots is given. Although the diphtheria and pertussis parts of the vaccine are not quite as effective, they still prevent most children from getting disease and they make the disease milder for those who do get it.

Because pertussis is not very common or severe in older children, those 7 years of age or older should take a vaccine that does not contain the pertussis part. Also, because reactions to the diphtheria part of the vaccine may be more common in older children, those 7 years of age and older should take a form of the vaccine that has a lower concentration of the diphtheria part. This vaccine which contains no pertussis part and a lower concentration of the diphtheria part is called Td vaccine. Boosters with the Td vaccine should be received every 10 years throughout life.

DEFERRAL OF DTP IMMUNIZATION:

Children who have had a serious reaction to previous DTP shots should not receive additional pertussis vaccine (see WARNING). A preparation called DT vaccine is available for them which does not contain the pertussis part. Also, children who have previously had a convulsion or are suspected to have a problem of the nervous system should not receive DTP vaccine until a full medical evaluation has been made.

POSSIBLE SIDE EFFECTS FROM THE VACCINE:

With DTP vaccine, most children will have a slight fever and be irritable within 2 days after getting the shot. One-half of children develop some soreness and swelling in the area where the shot was given. More serious side effects can occur.

(PLEASE READ OTHER SIDE)

A temperature of 105°F or greater may follow 1 out of 330 DTP shots. Continuous crying lasting 3 or more hours may occur after 1 in every 100 shots and unusual, high-pitched crying may occur after 1 in every 900 shots. Convulsions or episodes of limpness and paleness may each occur after 1 in every 1,750 shots. Rarely, about once in every 110,000 shots, other more severe problems of the brain may occur, and permanent brain damage may occur about once in every 310,000 shots. Side effects from DT or Td vaccine are not common and usually consist only of soreness and slight fever. As with any drug or vaccine, there is a rare possibility that allergic or more serious reactions or even death could occur.

Although some people have questioned whether DTP shots might cause Sudden Infant Death Syndrome (SIDS), the majority of evidence indicates that DTP shots do not cause SIDS.

PERSONAL OR FAMILY HISTORY OF CONVULSIONS:

Children who have had a convulsion and children who have a brother, sister, or parent who has ever had a convulsion are more likely to have a convulsion after receiving DTP vaccine. The advisory committees recommend that because of the overall risk of pertussis disease and the fact that the risk of convulsions is still very low: (1) children with a personal history of a convulsion and whose nervous system problem is stable may receive DTP vaccine; and (2) children with a family history of convulsions should receive DTP vaccine. However, you should tell the person who is to give the immunization about such a history and discuss the possibility of using an anti-fever medicine.

PREGNANCY:

Babies born under unsanitary conditions to unimmunized women have a risk of developing tetanus during the newborn period (neonatal tetanus). Neonatal tetanus can be prevented by immunization of adult women. Women who have not received Td earlier and who are thought to be at risk of delivering their babies under unsanitary conditions should be immunized during pregnancy.

Td vaccine is not known to cause special problems for pregnant women or their unborn babies. Doctors usually do not recommend giving any drugs or vaccines to pregnant women unless there is a specific need. Pregnant women who need Td vaccine should receive it, preferably during the second and/or third trimesters.

WARNING—SOME PERSONS SHOULD *NOT* TAKE THESE VACCINES WITHOUT CHECKING WITH A DOCTOR:

- Anyone who is sick right now with something more serious than a cold.
- Anyone who has had a convulsion or is suspected to have a problem of the nervous system.
- Anyone who has had a serious reaction to DTP, DT, or Td shots before, such as: an allergic reaction to any vaccine component; a temperature of 105°F or greater; an episode of limpness and paleness; prolonged continuous crying; an unusual, high-pitched cry; or a convulsion or other more severe problem of the brain.
- Anyone taking a drug or undergoing a treatment that lowers the body's resistance to infection, such as: cortisone, prednisone, certain anticancer drugs, or irradiation.
- Anyone who has had a serious reaction to a product containing thimerosal, a mercurial antiseptic.

QUESTIONS:

If you have any questions about diphtheria, tetanus, or pertussis or DTP, DT, or Td immunization, please ask us now or call your doctor or health department before you sign this form.

REACTIONS:

If the person who received the vaccine develops a temperature of 105°F or greater, continuous crying lasting 3 or more hours, an unusual high-pitched cry, a convulsion, an episode of limpness and paleness, or a severe problem of the brain, the person should be seen promptly by a doctor.

If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic in the 4 weeks after immunization, please report it to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

I have read or have had explained to me the information on this form about diphtheria, tetanus, and pertussis and DTP, DT and Td vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of the DTP, DT, and Td vaccine and request that the vaccine checked below be given to me or to the person named below for whom I am authorized to make this request.

Vaccine to be given ☐ **DTP** ☐ **DT** ☐ **Td**

DTP 1/1/88

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)				
Last Name	First Name	MI	Birthdate	Age
Address				
City	County		State	Zip
X				
Signature of person to receive vaccine or person authorized to make the request.				Date

FOR CLINIC USE
Clinic Ident.
Date Vaccinated
Manuf. and Lot No.
Site of injection

FOR DATA PROCESSING USE ONLY (OPTIONAL)

VACCINE HISTORY: PLACE CHECK ☐ IN BOX IF HISTORY PREVIOUSLY SUBMITTED

DTP:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	MEASLES: m/d/yr	MUMPS: m/d/yr	
POLIO:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	RUBELLA: m/d/yr	HAEMOPHILUS b: m/d/yr	

Highlights: Executive Committee and Council Actions

Executive Committee - January 19, 1989

Minutes - The Executive Committee minutes of December 15, 1988 were approved as distributed.

Committee on Emergency Medical Services - In response to a request from the Washington County Medical Society, the Executive Committee addressed the matter of the refusal of Cardiac Rescue Technicians (CRTs) and Emergency Medical Technicians (EMTs) to follow orders given by licensed physicians at a medical incident. The Committee reviewed a draft letter of response to the Washington County Medical Society advising of options for CRTs and EMTs in the care and transportation of critically ill patients by public ambulance as provided in the Maryland Medical Protocols. After discussion, a motion was adopted to refer the matter to Council for action.

Continuing Medical Education Policy of Med Chi - A revised policy for Med Chi cosponsorship of continuing medical education programs was presented. During discussion, it was pointed out that fees charged for cosponsorship of CME programs would not apply to component medical societies but only to outside organizations. The Committee adopted a motion to forward the matter to Council with a recommendation for adoption.

Hospital Medical Staffs Committee - It was reported that Dr. Victor Hrehorovich has been invited to serve as a member of the JCAHO's Task Force on Quality Improvement. A progress report was provided on the Model Bylaws for Hospital Medical Staffs, in particular, the inclusion of the development of an accountability mechanism to permit the medical staffs at hospitals to account to the public (through Med-Chi) for credentialing, peer review, quality assurance, and professional education.

Professional Review Organizations - The Executive Committee was provided with an update on the activities of the Delmarva Foundation and the Maryland Foundation for Health Care. Agreements have been made with the Maryland Foundation and the Prince George's Foundation for PRO review under the auspices of Delmarva. Also, Delmarva's PRO contract has been extended by HCFA to March 31, 1989, and it is anticipated the contract will be further extended for a three-year period ending March 31, 1992. It was reported that the Maryland Foundation's repayment fund balance as of November 30, 1988 was $11,000, and that the Foundation has obtained 29 additional nursing home contracts for Medicare Skilled review.

President's Regional Conferences - In an effort to enhance communications between Med Chi and the component societies, Dr. Dobridge, President of the Faculty, announced that two regional conferences had been scheduled. The first conference will be held with the Western Maryland counties on January 25, 1989, in Hagerstown, and a second conference has been scheduled with the Eastern Shore counties on February 22. Representatives invited to these regional meetings include the component society presidents, councilors, delegates, and alternate delegates to the Med Chi House of Delegates.

Communications - The Executive Committee endorsed a new communications system (developed by the Public Relations Committee and the Computers in Medicine Committee) designed to improve the flow of information between Med Chi, individual physicians, and component medical societies. A recommendation will be forwarded to the Council for approval of the system and its implementation.

LifeCard International, Inc. - Recent reports from physicians regarding a notice published by LifeCard indicating there would be a charge for processing of claims through LifeCard prompted Med Chi's inquiry into the matter. In response to our letter of December 13, 1988 to LifeCard, Thomas Durel, President of LifeCard, by communication of January 13, 1989, indicated that the fees were directed to high-volume institutions and billing agents who submit their Blue Shield claims electronically. Following a lengthy discussion, the Executive Committee directed that the issue be pursued for further clarification.

Council - January 28, 1989

Minutes - The minutes of the Council and Executive Committee were acted upon as follows:

Minutes approved: Council, Saturday, November 19, 1988

Minutes accepted: Executive Committee, November 17, 1988; Executive Committee, December 15, 1988

Proposed 1989 Budget - Dr. Jose Yosuico, Treasurer, presented the 1989 proposed budget; it was approved by Council. Council adopted a motion that the Executive Committee be provided with a monthly financial statement, which will be forwarded to Council. Dr. Antlitz stated that the Faculty should be commended for not requiring an increase in the Faculty dues since 1980, to which Council members responded with applause.

Petition to Reduce C-Section Rates - Dr. James Rivers, President, Maryland OB/GYN Society, who was invited to present the position of his specialty society, stated that the OB/GYN Society was strongly opposed to the draft petition filed with the HSCRC by the Public Health Research Group. The petition recommends that the HSCRC reduce the incidence of cesarean sections in Maryland hospitals by setting an annual target level of cesarean deliveries for community hospitals at 10 percent of all births and 17 percent for tertiary hospitals. Council discussed the issue at length, voted to support the position of the OB/GYN Society, and adopted a motion that properly trained physicians should continue to use their own judgment and expertise in the performance of c-sections.

Council Meeting Dates - Council adopted a motion to hold Council meetings on Thursdays at 4 p.m., rather than on Saturdays and, further, that a buffet dinner shall be made available at the meetings at no cost to the Council members. The following meeting dates were approved by the Council:

Thursday, March 23, 1989, 4 p.m.
Faculty Building
Wednesday, April 12, 8:30 a.m. and Friday, April 14, 1989
immediately following House of Delegates meeting,
Turf Valley Hotel and Country Club, Ellicott City, Md.
Thursday, June 29, 4 p.m.
Faculty Building
Thursday, September 14, 3 p.m.
Semiannual Meeting, Sheraton Fountainebleau,
Ocean City, Md.
Thursday, November 30, 4 p.m.
Faculty Building

Dues Waivers - Council approved dues waivers for the following physicians at the request of the component society indicated:

Baltimore City
Patricia McIntyre MD, Baltimore (disabled)
Charles County
Vernon B. Dettor MD, La Plata (illness)

Emeritus Members - The following physicians were approved for emeritus membership as requested by the component society indicated:

Anne Arundel County
Margaret Anderson MD, Pasadena
John Creamer MD, Pasadena
Baltimore City
William H.M. Finney MD, Baltimore
Margaret Paxson MD, Riderwood
A.N. Rahman MD, Timonium
William Rinn MD, Towson
Saul Zigel MD, Randallstown
Myra R. Zinke MD, Baltimore
Frederick County
Gordon Smith MD, Frederick
Harford County
Gunther Hirsch MD, Havre de Grace
Montgomery County
Seruch T. Kimble MD, Silver Spring
Prince George's County
Hugh G. Clark MD, Hyattsville
Rafael A. Delgardo MD, Kensington
H. Herbert Insel MD, Silver Spring
Francisco Venegas MD, Chevy Chase
Richard Whelton MD, University Park
Wicomico County
Charles Bagley MD, Salisbury
Robert D. Baker MD, Salisbury
C. Herschel King MD, Salisbury
Affiliate Members
Simon C. Beaudet MD, San Diego, CA
Alfred B. Dixon MD, Sunapee, NH
Erwin F. Fuerst MD, Sarasota, FL
Omer D. Sprecher Jr., MD, Hagerstown, MD

The names of these physicians will be forwarded to the House of Delegates for approval at its April 1989 meeting.

Emergency Medical Services - A letter from the Washington County Medical Society in which Med Chi was requested to address the matter concerning CRT/EMTs refusal to follow orders given by licensed physicians in attendance at a medical incident was reviewed. Following discussion, the Council approved, after amendment, a letter of response in which options of the Maryland Medical Protocols for CRT/EMTs were provided for the care and transportation of patients under emergency conditions.

Continuing Medical Education Policy - Dr. Gary Rosenberg, Chairman, Scientific Activity Committee, presented a proposed policy for Med Chi cosponsorship of continuing medical education, which was approved unanimously by the Council, as follows:

The Medical and Chirurgical Faculty of the State of Maryland, under the ACCME Guidelines for Cosponsorship of Continuing Medical Education Credit, is able to offer such credits to physicians of the State of Maryland.

The Committee on Scientific Activity meets monthly to consider cosponsorship requests. Requests must be submitted at least 60 days prior to the program and/or prior to having your solicitation brochure printed and/or mailed to your audience.

Where the Committee on Scientific Activity chooses to cosponsor a program involving a product or service, the Medical and Chirurgical Faculty reserves the right that a disclaimer be included in all promotional publicity for the meeting.

The Medical and Chirurgical Faculty requires that the following statements designating CME credit hours appear in the promotional literature:

> The Medical and Chirurgical Faculty is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.
> The Medical and Chirurgical Faculty designates this continuing medical education activity for _ Category I Credit Hours.

In order to meet the ACCME standards for organizations desiring cosponsorship by the Medical and Chirurgical Faculty for a single program, the organization must propose the concept to the Committee on Scientific Activity and then work jointly with the committee in designing the program. In addition, the organization will submit the following:

(1) Application fee of $150; $100 will be returned if approval is denied. Amendments to application will be charged $15.
(2) Date and location of presentation

(3) Draft of proposed program including goals and objectives, topics, speakers and schedule

The Council was informed that component societies would not be charged for co-sponsorship.

Medicaid Diversion

Medicaid Recipient Notice: Council reviewed Med Chi's response to the Department of Health and Mental Hygiene's letter requesting comments on a proposed plan to send a recipient notice to all Medical Assistance recipients notifying patients that Medicaid would pay hospital emergency rooms for treating emergencies only. It was the consensus of the Council that Secretary Wilzack should be advised that sending such a notice would be ineffective and that the public should first be educated to change their behavior in using emergency rooms indiscriminately. The Council adopted a motion that Med Chi be prepared to take such other steps necessary to appropriately deal with this issue.

Medicaid Diversion Update: Council was advised of an HSCRC hearing scheduled for February 1, 1989 for discussion of the experimental primary care access clinic rate for Medical Assistance patients. Following discussion, Council adopted a motion that Med Chi make known its objections to COMAR Regulations 10.09.02, regarding PCAC rates to include the physician component.

President's Regional Meetings - Dr. Dobridge reported on a January 25 meeting with the officers of the Western Maryland societies. He believes such meetings with physicians in their regional areas would enhance communications. Another regional meeting is scheduled with Eastern Shore physicians on February 22, 1989.

Communications - A joint proposal of the Public Relations Committee and the Computers in Medicine Committee to improve communications between physicains and component medical society offices was adopted by the Council. As part of the established Maryland Med Sig computer bulletin Board system currently operating in Maryland, the service will provide a means for Med Chi to respond immediately to any issue.

State Ethics Commission - A request by the Physician Quality Assurance Board (PQAB) for for an opinion of the State Ethics Commission concerning a possible conflict of interest in the appointments of Dr. Israel Weiner and Dr. Rose Mary H. Bonsack to the PQAB was discussed at length. Med Chi has requested that the PQAB provide us with a copy of their letter to the State Ethics Commission. The Council directed that Med Chi should pursue the issue if a response is not received from the Board.

Role Relationship Committee Report - Dr. Roland Smoot, Chairman of the Ad Hoc Committee on Role Relationship, presented the report of the committee and recommended adoption of the following:

(1) That Council adopt Alternative A of the report as the method by which specialties shall have representation in the Med Chi House of Delegates, and

(2) That the Role Relationship Committee, having completed its assigned tasks, be disbanded, effective upon acceptance of the report.

Following discussion, the Council adopted a motion to (a) support both of the above recommendations, and (b) that Alternative A be forwarded to the Bylaws Committee for inclusion in its report to the House of Delegates at the 1989 Annual Session. Alternative A reads:

> That the Bylaws be changed so as to allow for a standing committee consisting of representatives from specialty societies within Maryland (deleting the current Ad Hoc Interspecialty Committee). This committee would then be allowed to represent the various specialties by selecting seven members to be members of the Med Chi House of Delegates and, further, one member to be placed on the Med Chi Council with one vote. All such representatives to the House of Delegates must be members of Med Chi.
>
> The delegate would be allowed one full vote and, further, there would be an alternate delegate for each delegate position, the alternate delegate being without vote unless substituting for the delegate. Both the delegate and alternate delegate must be members of Med Chi.

Resolution on Tobacco Products - Council agreed to support the following resolution submitted by the Committee on Alcoholism and Chemical Dependency:

Resolution on Limiting the Sale of Tobacco Products in Maryland

> Whereas, Cigarette smoking is a major cause of death, disease, and high medical costs in the United States;
>
> Whereas, Nicotine is not only a drug but an addictive drug; and
>
> Whereas, Legal restrictions on the sale of tobacco may result in significant reduction of its use among the general population, thereby reducing the incidence of morbidity and mortality resulting from such use; therefore, be it
>
> RESOLVED, That the Medical and Chirurgical Faculty of Maryland supports efforts towards legislation limiting the sale of tobacco products in Maryland; and
>
> RESOLVED, That support for such legislation may include action aimed at raising the minimum age required for the purchase of tobacco products and restricting the means by which tobacco products may be dispensed.

Continuing Medical Education Review Committee *Site Surveys* - Dr. Eugene Libre, Chairman of the CMER Committee, was present for the discussion of the remuneration to the CMER Committee members for conducting site surveys at various facilities

throughout the state. The Council was advised that this issue had been discussed within the Executive Committee and the decision was made not to pay the members of the CMER committee for site surveys because many committees spend the same time and concerted efforts while serving on committees of Med Chi. Following a lengthy discussion, it was the consensus of Council not to authorize reimbursement to the CMER committee members for site surveys. After further discussion, however, Council adopted a motion to establish an ad hoc committee to study the issue.

Attendance at ACCME Meeting - Council authorized the attendance of Dr. Libre at the annual meeting of the ACCME in Chicago in March 1989 and directed that attendance at all future meetings must be submitted to Council for action.

AMA Alternate Delegate - The Chairman entertained a motion to fill the AMA Alternate Delegate position caused by Dr. John Hebb assuming the position of Delegate to the AMA, effective January 1, 1989. This motion was ruled to be apporpriate under the provisions of the Faculty Bylaws, Article IV, Section 9, which provides that the Council shall fill such positions until the next annual session of the House of Delegates. Dr. David Nagel and Dr. Marvin Schneider were nominated from the floor. Dr. Schneider withdrew his name from nomination because of time constraints. Dr. Nagel was elected by acclamation by Council to fill the vacancy until the House of Delegates election to be held at the 1989 annual meeting in April.

Dr. Hebb requested information relative to the appropriateness of this action, and legal counsel of the Faculty, Jean Bienemann, read the appropriate bylaw provision to the Council. Council Chairman responded to Dr. Hebb's inquiry, stating that the Council's action was appropriate and was in accordance with the filling of the vacancy for the AMA Alternate Delegate position by the Council until the next Annual Meeting. Hearing no appeal, the Council Chairman went on to other business.

Indigent Care - Dr. Albert Antlitz requested and received permission from the Council to pursue a concept currently used by the Kentucky Medical Association in providing free medical care for patients, particularly those considered below the poverty level.

Proposed Resolution on Margarine - Dr. Antlitz addressed a proposed resolution approved by the AMA Delegation to be presented to the AMA House at its annual meeting in June. The resolution was adopted by the Council and will be forwarded to the AMA for consideration at the its annual meeting in June, 1989.

Resolution on Margarine versus Butter

Whereas, Cardiovascular Disease is a leading cause of death in the United States;
Whereas, The 1988 Report of the National Cholesterol Education Program, National Heart, Lung and Blood Institute recommended margarine made from unsaturated vegetable oils to lower blood cholesterol;
Whereas, Unsaturated margarine is less atherogenic than butter;
Whereas, A National Retail Associaton commissioned Gallup Poll in 1988 determined that approximately 78% of table service restaurants have margarine available to patrons upon request;
Whereas, The same poll determined that approximately 92% of table service restaurants will, upon request, alter food preparation to use vegetable oil instead of saturated fat;
Whereas, Laws in certain states discourage the availability of margarine; and
Whereas, Many restaurants already appreciate the benefits of a health diet; be it therefore
RESOLVED, That the American Medical Association work with state medical societies, the restaurant industry and the media to make available unsaturated margarine in all restaurants.

OB Care of Patients - Dr. Lawrence Fink asked Council for support of a proposal to come before the Legislature initiated by Montgomery County directing the state to indemnify the provision of care for indigent OB patients. Following discussion, the Council voted to support such legislation.

PIP (Personal Injury Protection) - Dr. Joseph Fastow introduced a motion before Council that the Faculty (1) support the position that the PIP waiver be defeated in the legislature; (2) that the Faculty support the collateral source, and (3) that the Faculty derive informaiton on PIP so that that Med Chi will be prepared to take a position in the future. After discussion, motions (1) and (2) were withdrawn and Council voted to support motion (3).

Council: Special Meeting - February 16, 1989

Senate Bill 297 - Medical Laboratories - Permit Requirements -A special meeting of the Council was called to determine an appropriate policy decision on Senate Bill 297. Opening the discussion, the Chairman, Dr. Lee-Llacer read a letter from Dr. Leslie R. Miles, a member of Council representing Allegany County, in which he supported SB-297.

Following a lengthy discussion of the issue, Council adopted Dr. Dembo's motion that Med Chi support the bill with amendments, to seek further clarification of the meaning of the words "personally supervises" as used in SB-297, and to continue an ongoing relationship between Med Chi and the Department of Health and Mental Hygiene. After further discussion, Council adopted an amendment to the motion to require that any promulgation of regulations must go through the Administrative Executive Legisltive Review (AELR).

Executive Committee - February 16, 1989

Building Committee Report Dr. Nagel, on behalf of Dr. George Malouf, Chairman of the Building Committee, presented the committee's report that recom-

mended Med Chi should negotiate immediately with Mr. Nathan Landow, Chairman of the Maryland Democratic Party, who has expressed interest in renting the first floor of the Med Chi Annapolis building as the new home for the Maryland Democratic Party. The Executive Committee agreed with the recommendation of the Building Committee and suggested that negotiations be carried out by the Finance Committee and the Executive Director, and that a report be provided to the Executive Committee once the negotiations are completed. Later in the meeting, the Executive Committee voted to accept the report and refer the matter to the Executive Director to implement.

Medicaid Diversion Plan - Correspondence from Dr. Dan K. Morhaim, Chairman of the Department of Emergency Medicine at Franklin Square Hospital Center, and Med Chi's draft letter of response were reviewed by the Executive Committee. In his letter, Dr. Morhaim suggested that Med Chi become more proactive in managing complex health care and public policy problems, to which Med Chi responded with a detailed report of actions taken thus far in its efforts to resolve the Medicaid Diversion Plan and Mandated Assignment issues. The draft letter of response to Dr. Morhaim was approved as written.

Real Time Monitoring- Notification from Blue Cross/Blue Shield of Maryland that effective for dates of service on and after March 1, 1989, Blue Cross Blue Shield of Maryland will be provide benefits for ambulatory ECG monitoring, including Real-Time technology with full disclosure capabilities, in accordance with the ACC/AHA guidelines. Dr. Atkins mentioned that it was through Med Chi's efforts this was accomplished and such information should be conveyed to the membership through the *Maryland Medical Journal.*

Monthly Financial Report - The Executive Committee reviewed the monthly financial report and, after discussion, adopted a motion that Med Chi should investigate the possibility of a group purchase of FAX machines for use by members of the Executive Committee. It was also suggested that the component societies be polled to determine their interest in this venture. A report on this issue will be provided to the Executive Committee at its next meeting.

Physicians Quality Assurance Board - The Executive Committee approved a draft letter from the President of Med Chi to the State Board of Physician Quality Assurance requesting that all fee dispute complaints be sent to Med Chi for investigation in accordance with the legislative intent of Senate Bill 508. In addition, the letter requests that the Board seek, on Med Chi's behalf, an opinion from the AG's office as to Med Chi's immunity for investigating and mediating all fee disputes, not just those disputes that come under the disciplinary ground of gross and willful overcharging for professional services. An inquiry was made that if there is no immunity, how the current law could be amended to grant such immunity. However, the proposed amendment would not be to expand the existing disciplinary grounds. The letter also informs the Board that Med Chi has contacted the Antitrust Division for guidance in setting up a mechanism for conducting fee resolutions that would not be in violation of antitrust laws. ■

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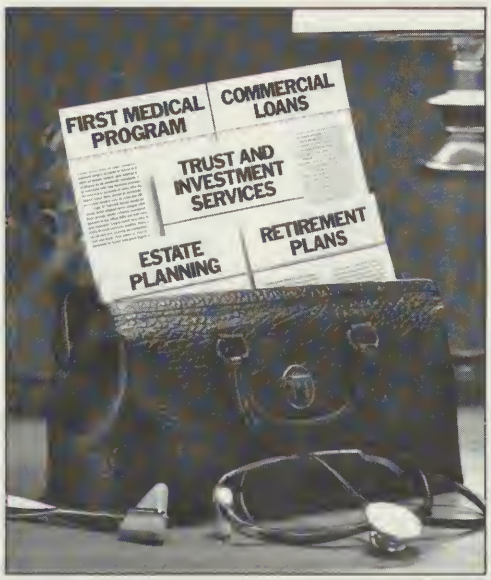
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Executive Director's Newsletter

June 1989

New Med Chi Resolutions

Resolutions on the following topics were passed by the Med Chi House of Delegates during the Annual Meeting in April: Student and Resident Participation, Natural Science Ambassador Project, Ophthalmic Surgical Care, and Women Physicians in Organized Medicine. To obtain a copy of the resolutions, contact Betsy Newman at the Faculty at 301-539-0872 or 1-800-492-1056 in Maryland.

Anti-Arrhythmic Drug Ban

The National Heart, Lung and Blood Institute recently announced that it has removed two anti-arrhythmic drugs, encainide and flecainide, from a clinical trial involving patients who had suffered heart attacks. Encainide is marketed by Bristol-Meyers under the trade name Encaid. Flecainide is marketed by Riker Laboratories under the trade name Tambocor. The action was based on recommendations from a Data and Safety Monitoring Board, which concluded that test-trial data show no benefit from the two drugs in the types of patients studied while suggesting a possible harmful effect in this clinical population. The FDA and manufacturers of encainide and flecainide are asking that the drugs not be used for arrhythmias that are not life threatening. FDA emphasized, however, that use of drugs should NOT be interrupted in life threatening situations.

Mutual Fire Inland and Marine Malpractice Insurance

The Faculty has sent an update on Mutual Fire's Plan of Rehabilitation to each policyholder who contacted its office. In general, we have advised the policyholders to contact the Policyholder Committee appointed by the Commonwealth of Pennsylvania for any additional information about Mutual Fire. Physicians may call 202-879-4000 to contact either Ms. Diane H. Lautrup or Richard A. Brown, Esq. with the Washington, DC law firm of Spigel & McDiarmid who have been retained by Mutual Fire to provide policyholders with information about the company. All physicians previously insured by Mutual Fire are reminded to register their name with Med Chi's legal services department so that any information regarding Mutal Fire's Rehabilitation may be directed to you.

Medical Mutual

The Medical Mutual Liability Insurance Society of Maryland recently announced it will not seek a rate increase in 1989 for its member physicians. In making the announcement, Raymond M. Yow MD, Chairman of the Board and Chief Executive Officer, said, "We are going into our third consecutive year with no rate

increase for our members. We are delighted that the cumulative effects of tort reform have allowed us to hold the line on rates."

ICD-9 Coding Requirements

The Health Care Financing Administration (HCFA) has directed Medicare carriers to delay enforcement of the new policy requiring all physicians to use ICD-9 codes on Medicare claims until June 1, 1989. This important policy change was spurred by the AMA's representational efforts on behalf of the profession.

To obtain a copy of the ICD-9-CM, third edition, Volumes 1 & 2 with shipment by priority mail and a guarantee for receipt of all addenda to be issued through 1991, send $43.00 (check or money order) to ICD-9-CM, Third Edition, Vols. 1 & 2, P.O. Box 360121, Pittsburgh, PA 15250-6121.

New HCFA Procedure

HCFA recently initiated a new procedure that requires Medicare carriers to provide state medical associations and specialty societies with all proposed changes in local medical policy and to invite their comments. The new procedure is part of the seven-point agreement HCFA entered into with AMA last January to correct the way carriers had gone about enforcing "medical necessity" provisions in 1988.

The AMA insisted that carriers be directed to invite comment from state medical associations and specialty societies on medical policy changes as one means of significantly improving the review process by making practices fair and equitable to physicians. The step should much to improve carrier-physician relations that have been at low ebb in recent years.

Med Sig Bulletin Board

Med Chi's Med Sig computer bulletin board provides announcements and updates on issues in medicine from the AMA, Med Chi and, around the state. All the information in this month's newsletter already appears on the Med Sig system. Any questions or requests for clarification of announcements in this newsletter may be entered directly into Med Sig. This enables Med Chi staff to respond to your requests almost immediately. The system is available to all member physicians throughout Maryland. For more information regarding the Maryland Med Sig Bulletin Board System, contact Betsy Newman at 301-539-0872 or 1-800-492-1056 in Maryland.

Medical Assistance

Med Chi is cooperating with the Medical Assistance Program of Maryland to develop methods to streamline claims processing and generally to improve the administration of the program. Physicians interested in becoming a Medical Assistance provider should contact Mr. Russell Jenkins, Director of Provider Enrollment at 301-225-5340.



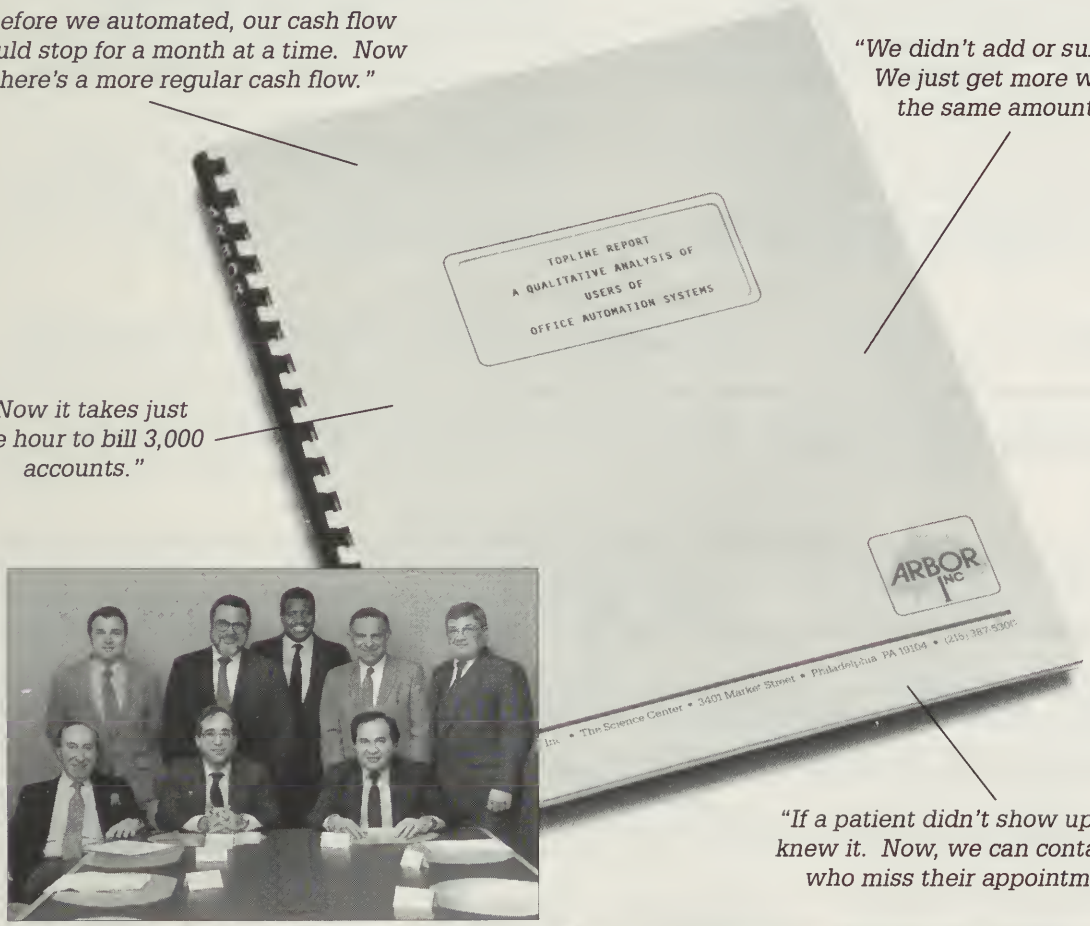
Angelo J. Troisi, FACHE
Executive Director

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LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state. The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and policies Governing the Practice of Medicine in Maryland.

■ ■ ■

The following is the Medicolegal Code of Cooperation adopted by the Faculty, the Maryland Bar Association, and the Baltimore City Bar Association for use by physicians and attorneys to guide them in their dealings with each other:

Medicolegal Code of Cooperation

Preamble

When a person requires a combination of medical and legal assistance, his or her physician and lawyer best serve that person by cooperating with each other. The members of the Maryland State Bar Association, the Medical and Chirurgical Faculty of the State of Maryland, the Bar Association of Baltimore City, adopt this declaration of principles as ethical standards of conduct for attorneys and physicians in such situations.

Attending Physician and the Attorney

Attending physicians and attorneys approach medicolegal problems from different points of view. The attending physician is primarily concerned with the patient's medical treatment. The patient's attorney is concerned with the most effective presentation of the patient's medical condition and problems, and the adverse attorney is required to thoroughly investigate the patient's contentions.

If a physician chooses not to continue treatment of a patient involved in a medicolegal situation, he should immediately notify the patient and allow the patient reasonable opportunity to obtain another physician.

In representation of a patient, an attorney may wish to obtain a second medical opinion regarding his client's condition. The attorney should not refer his client for examination or treatment to a second physician unless the attending physician is advised or the attending physician has voluntarily terminated his care and treatment of the patient. If an attorney refers a client for a second opinion, both the attending physician and the physician to whom the client has been referred should be notified.

Medical Records and Reports

Most medicolegal situations are resolved by an evaluation of medical records and reports. Documents submitted by an attorney in support of a client's claim must contain sufficient information to allow that client's medical condition to be evaluated. Sufficient information may be contained in a physician's medical records or a hospital record. In some cases, however, a special report by the physician may be requested.

Authorizations

An attorney should furnish the physician a proper Authorization for release of medical information regarding the patient unless not required to do so by law. (See HG 3-401.) When a treating or consulting physician receives a request for medical information accompanied by a proper Authorization, he should promptly furnish that information or the documents requested. If an attorney requests records or reports, he should specify whether a copy of the medical records maintained by the physician in treating the client will suffice or whether a special report is necessary. In the latter case, the attorney's request should specify the information needed in the report.

Fees

A physician may charge a reasonable fee for furnishing medical records or reports. If only existing medical records are requested, the charge should be for the reproduction and staff time incurred in that reproduction. If a special report must be prepared, the charge may include compensation for the physician's time expended as well as staff preparation time and reproduction. It is incumbent upon an attorney to see that the physician is promptly paid any reasonable bill submitted for furnishing medical records or reports.

Medical Testimony

Often in a medicolegal situation, the physician's testimony is necessary either at a deposition or trial. In either context it is particularly important that the attorney recognize the demands that patient care places upon a physician's time. Thus, notice and scheduling of the physician's appearance must be given the utmost consideration by the attorney. Physicians should understand, particularly in the context of a trial, that the date testimony is required is not always flexible, and accordingly, should arrange their schedule in an attempt to be present. Either depositions or videotape depositions offer an alternative to live court testimony. Attorneys should consider this alternative for the convenience of physicians whose schedules cannot accommodate appearances in court.

Prior to presenting testimony from a physician or producing a physician testimony at a deposition, an attorney may choose to meet with that physician and review the issues and questions which may be expected to arise. If the attorney makes such a request, the physician should cooperate by making himself available at a reasonable time to meet with the attorney prior to giving the testimony.

An attorney should consult with the physician or his staff prior to arranging depositions, and, if possible, prior to scheduling a trial date so that a date convenient to the physician may be selected. (Such a consultation may not be required where the physician is adversary to the attorney's client.) If it is not possible to consult with the physician or his office staff prior to scheduling a trial date, the physician should be immediately notified of the date upon which the trial has been scheduled.

A physician should cooperate with the attorney representing his patient regarding the scheduling of depositions or trial appearances. Should any changes occur in the physician's schedule which make it difficult for him to appear on a previously scheduled date, he should immediately notify the attorney of those changes. Similarly, the attorney should always keep the physician advised of changes in the time of or necessity for his appearance. A physician should be immediately notified if a trial is postponed or cancelled and his testimony is not necessary.

An attorney should not issue a Subpoena for a physician without advising him such Subpoena is to be issued and the date upon which the physician is requested to appear. (This requirement may not apply in situations where the physician is an adversary to the attorney's client.) During trials an attorney should attempt to work out an on-call arrangement with the physician so as to cause him as little inconvenience as possible in connection with his court appearance.

Physician Compensation

A physician is entitled to be compensated for time devoted to preparation for testimony and deposition. (This requirement may not apply in situations where the physician is an adversary to the attorney's client.) Compensation should be related only to time involved and never to the outcome of the controversy. If a situation occurs where a physician has cancelled appointments in anticipation of medical testimony and does not receive enough notice of a postponement or cancellation of the testimony to reschedule those appointments or otherwise use the time, he is entitled to reasonable compensation regardless.

The client-patient is initially responsible for compensating the physician for time devoted to the legal proceeding. It is appropriate, however, for a physician to either request compensation in advance of expending time or to arrange that the attorney, in addition to the client-patient, be personally responsible for the bill. If the latter arrangement is agreed upon, it should be reduced to writing.

The patient is responsible for bills for medical treatment and it is inappropriate for the attorney to agree to be personally responsible for those bills. However, the physician may request the attorney to secure the patient's agreement that outstanding medical bills be satisfied from any settlement, judgment; or insurance proceeds. If such an agreement is obtained, the attorney is personally responsible to see that it is carried out and is liable to the physician for failure to do so.

It is the duty of an attorney to see that a physician is promptly compensated for his time devoted to the proceeding. It is preferable for both the attorney and the physician to reach an agreement in advance concerning the amount of fees and expenses for time devoted to preparation or testimony. Neither the attorney nor the physician should enter into an agreement in which the physician's compensation is contingent upon the outcome of a case.

Medicolegal Committee

The Medical and Chirurgical Faculty of the State of Maryland and the Maryland State and City of Baltimore Bar Associations maintain a standing joint committee on interprofessional relationships. The committee is known as the Medicolegal Committee. Its purpose is to promote a closer and more harmonious relationship between the two professions. The committee membership is composed of twelve attorneys and twelve physicians.

The Committee will consider all matters concerning interprofessional relationships between the two professions, including, but not limited to, the following:

1. Promotion and perpetuation of harmony between the professions.
2. Achieving a fuller understanding of mutual problems.
3. Promotion of educational programs of interest to both professions.

4. Publication of guidelines regarding fees for record production, preparation for medical reports, and time spent in preparation for and the giving of depositions and trial testimony.
5. Consideration of disputes arising from interprofessional relationships including violations of the above Code.
6. Referral of legal or ethical violations, including violations of this code, to the Commission on Medical Discipline or the Attorney Grievance Commission in appropriate situations.

In dealing with problems which arise between individuals, physicians, and attorneys, the Committee will recommend a course of action based upon the principles in the Medicolegal Code. Matters already in litigation between an attorney and a physician will not be considered by the Committee.

General Provisions

Nothing contained in this statement of principles is intended to be inconsistent with provisions of law or rules of ethical conduct for attorneys or of a medical/legal claim against a physician. ■

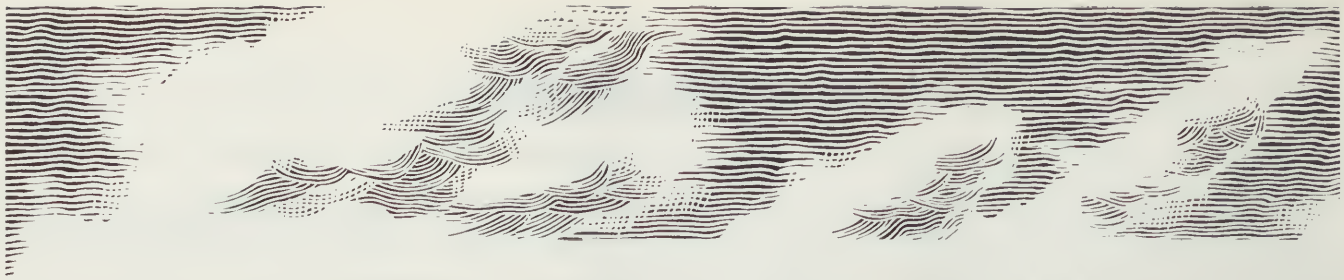
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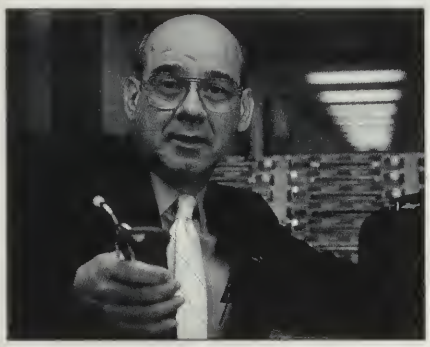
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Photodynamic Therapy of Superficial Bladder Cancer

Approximately 35,000 cases of urinary bladder cancer are diagnosed in the United States each year, resulting in 10,000 to 12,000 deaths. In the Western Hemisphere 90 to 95 percent of the cancers are transitional cell carcinoma.

Cancer of the bladder is a heterogeneous disease. Epidemiologic studies have pointed to several environmental factors including occupation, diet, coffee drinking, cigarette smoking, certain medications, and chronic bladder infections. Bladder cancer is considered as an environmental model of carcinogenesis with multistage processes including initiating and promoting factors. A number of carcinogens, such as saccharin and nitrosamines, have been shown in rats to possess synergism in induction of bladder cancer. The most progress in understanding bladder cancer has been in the recognition of the role of carcinogens, initiators, and promoters in a complex setting producing a heterogenous cancer.[1,2]

The distinction of two major groups of transitional cell carcinoma (superficial and muscle invasive bladder cancer) helps in developing therapeutic strategy for a given patient. Superficial tumors are treated initially by transurethral resection and fulguration of the bases. However, the incidence of subsequent tumors ranges from 40 to 70 percent of cases due to multicentricity of these tumors. These subsequent recurrences have presented a major therapeutic challenge.

Photodynamic therapy (PDT) employing hematoporphyrin derivatives is an experimental modality under investigation for a number of cancers in several centers and is currently being evaluated in controlled multicenter studies as an ablative and prophylaxis modality in bladder carcinoma. Over the past several years, it has been demonstrated that these compounds are taken up and concentrated in malignant tissue and may be activated in penetrating light of 630 mm wavelength.

Complete treatment with photodynamic therapy will consist of a single injection of Photofrin.® Inject 2.0 mg/kg Photofrin® intravenously preceded by the laser therapy. Patients should be advised to minimize light exposure up for to 30 days. Seventy-two (72) hours after injection under appropriate anesthesia, the urologist will instill normal saline into the bladder.

As specific light delivery is critical to establishing the light dose, all laser fibers should be checked prior to the start of the procedure. Once the fibers are verified to be of good quality, the patient (under appropriate anesthesia) is placed in the lithotomy position and readied for PDT.

Full bladder treatment requires light delivery of about 17 Joules/cm2 using the spherical cavity diffuser.

This ongoing study at the University of Maryland Hospital is evaluating the role of photodynamic therapy in superficial bladder cancer. A phase II study has revealed the efficacy of this new modality of therapy.[3] A phase III study will determine the role of this therapeutic modality.

References

1. Javadpour N. Advances in bladder cancer. Intern Med for the Specialist 1987; 8 (7): 47.

2. Javadpour N. Multiple cell markers in bladder cancer. Principles and clinical applications. Urol Clin North Am II 1984; 4: 609.

3. Selected advances in therapy of urologic cancer. In Javadpour N, Murphy GP, eds. Advances in Urologic Cancer. New York; Alan R. Liss, Inc., 1987.

NASSAR JAVADPOUR MD
Professor of Urology
Director, Urologic Oncology
Department of Surgery
University of Maryland

Tumor conferences are held weekly on Tuesday between 8 and 9 a.m. in Room N13E28 at the University of Maryland Medical System. Physicians are welcome to attend this open meeting and to present cases and pathological slides. Call the number below by noon Monday to be placed on the schedule.

Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, MD 21202 (301-328-5224). ■

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MRI UPDATE



Figure 1



Figure 2



Figure 3

CLINICAL INFORMATION: Non-meniscal abnormalities are commonly suspected and evaluated by MRI and unexpected non-meniscal abnormalities are commonly demonstrated in the course of MR evaluation for internal derangements of the knee.

FINDINGS: Figure 1 is a sagittal image through the lateral compartment of a 15-year-old patient's knee. The subarticular portion of the lateral femoral condyle is affected by low signal alteration containing three rounded areas of higher signal intensity. The findings here are diagnostic of osteochondritis dessicans (straight arrows). Notice the normal adjacent anterior and posterior horns of the lateral meniscus (curved arrows).

Figure 2 is a sagittal image through the intercondylar midportion of a 19-year-old patient's knee. The tibial insertion of the anterior cruciate ligament is indicated by the arrow. The remainder of the anterior cruciate ligament is totally disrupted and its expected position is occupied by inhomogeneous material of intermediate signal intensity compatible with hemorrhage. The anterior cruciate has been notoriously difficult to evaluate by MRI, but its reliable evaluation is now possible with careful positioning and rescanning of questionable cases.

Figure 3 is a coronal image of the posterior aspect of the knee of a 33-year-old patient. The arrow indicates a 1.5 cm. ganglion cyst intimately applied to the lateral aspect of the biceps femoris tendon just proximal to the fibular head. The MR study clearly demonstrates the extra-articular and extraosseous nature of this process.

COMMENT: MRI has become clearly established for evaluation of internal derangements of the knee. Meniscal evaluation is known to be highly accurate. The cases shown here are meant to demonstrate the efficacy and accuracy of MR evaluation of extrameniscal structures.

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Sweeteners and Diabetes

Doctor, I check food labels for sugar, but what other names can it be listed under? What other sweetening agents are acceptable for the diabetic patient to use?

Sweeteners are classified into two general types: nutritive, commonly known as sugars (containing calories), and nonnutrative, chemical substances having a degree of sweetness to taste but do not metabolize into caloric production in the body. The nutritive sweeteners that may be listed on package labels by names other than glucose are corn syrup, dextrin, dextrose, invert sugar, lactose, maltose, molasses, raw sugar, turbino, sorbitol, fructose, brown sugar, honey, mannitol, and zylitol. All have a caloric equivalent when metabolized in the body and must be considered with the insulin dose being used in balancing the meal plan .

It is a misstatement to say that these preparations are proscribed for the diabetic patient. Carbohydrates or sugars are essential in all meal plans. When a diabetic patient states "I am not allowed any sugars in my meal plan," that person needs more dietary education.

The two noncaloric sweeteners currently approved by the Food and Drug Administration are saccharin and aspartame. Saccharin was discovered in 1879 at Johns Hopkins University. It did not gain wide use as a noncaloric sweetener until after World War II, when it began to appear in soft drinks and food preparations to allow people to keep up their food and drink intake with a lessened caloric intake. The FDA considers noncaloric sweeteners worthwhile for psychological reasons and states that they should be used only by people who must restrict their intake of ordinary sweets.

There appears to be no question that saccharin is a weak carcinogenic substance in animals, but the level of human risk has led to confusion on the part of the public. The FDA tried to ban saccharin in the 1970s, and the 95th Congress prohibited the action by passing the Saccharin Study and Labeling Act (Public Law 95-203), which is still in effect.

Aspartame was approved by the FDA as a food additive in 1981. It is generally agreed that it is safe to be used as a noncaloric sweetener in foods and beverages. However, there are detractors of aspartame who would like the FDA to ban the substance. In a position statement in July 1987 the American Diabetes Association said, " Based on available evidence the Association finds the use of the two commercially available noncaloric sweeteners, saccharin and aspartame, to be acceptable....They should be used in amounts established as acceptable."

Noncaloric sweeteners as food and beverage additives are used extensively and excessively. Since they have no nutritive value their only usefulness can be to satisfy the psychological desire for sweets in the diets of people who must restrict their intake of carbohydrates.

The sweeteners are used more by the overweight population than by those with diabetes. A more healthful, practical, and economical approach for overweight persons would be instruction in the use of a weight-loss meal plan of normally available food plus increased exercise. Likewise, the diabetic patient could follow a well-planned diet without the use of noncaloric sweeteners with almost no hardship. These substances are here to stay and their use probably will be expanded. Are they being used excessively and improperly? Some examples of noncaloric sweeteners listed by brand name are:

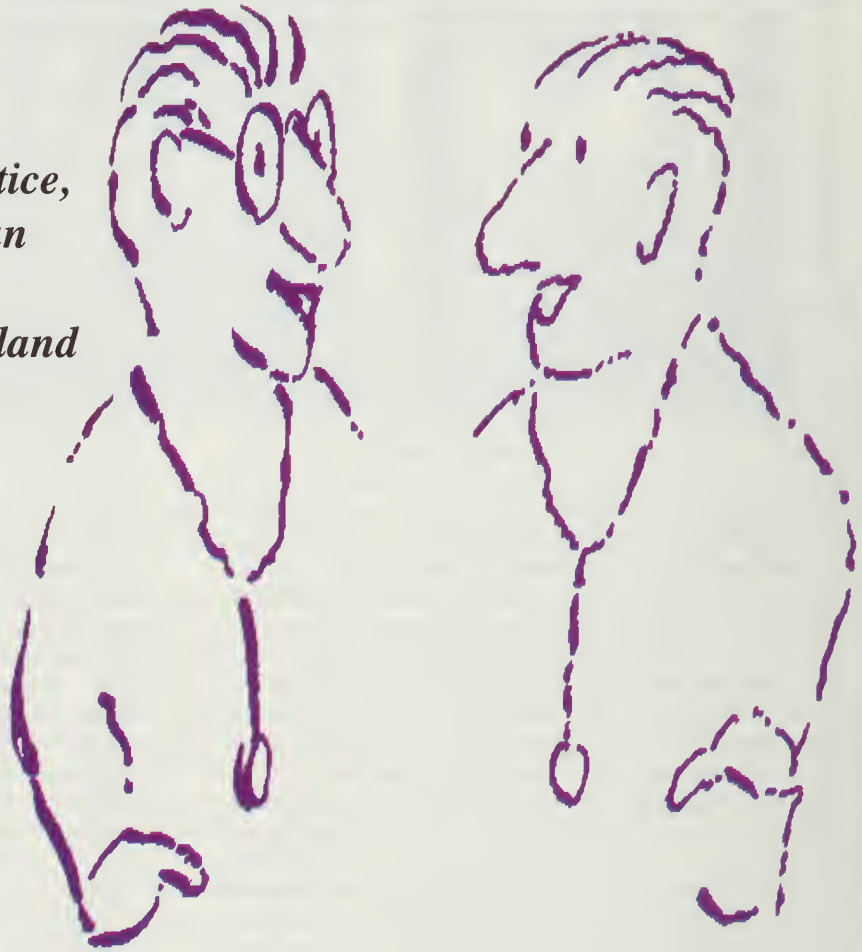
Brand	Form	Table Sugar Equivalent
Adolph's™		
2 shakes	Granulated	1 teaspoon
Equal™		
1 packet (4 calories)	Granulated	2 teaspoons
1 tablet (0.4 calories)	Tablet	1 teaspoon
Featherweight™		
3 drops	Liquid	1 teaspoon
1 teaspoon	Powdered	1 tablespoon
Sucaryl™		
1/8 teaspoon	Liquid	1 teaspoon
Sugar Twin™		
1 packet	Granulated	2 teaspoons
Sweet 'N Low™		
1 packet	Granulated	2 teaspoons
Sug'r Like™		
1 teaspoon	Granulated	1 teaspoon
Superose™		
4 drops	Liquid	1 teaspoon

DeWITT E. DeLAWTER MD
Editor

■

MEDICAL MALPRACTICE DAZE

In the topsy-turvy world of medical malpractice, it's the little things that can add up to very big dollars. That's why so many Maryland physicians have turned to William C. Garrett, a specialist in medical malpractice for over 20 years.



"George, did you hear about the malpractice insurance problems some Maryland physicians have had recently?"

"No Bob! What kind of problems?"

"Coverage problems mostly, or worse yet, lack of coverage."

"What happened, didn't they buy coverage?"

"Oh, they bought coverage alright, but the company went into receivership. Now there is some question about who pays for legal defense or for judgements rendered against them."

"Now I know who you are talking about. Didn't we have that company at one time?"

"We sure did, but our broker, William C. Garrett & Associates moved us out way before they got into trouble."

"Guess we were fortunate to have Bill as our broker."

"You can say that again George!"

"Was it a large malpractice suit?"

"No, as a matter of fact it involved premises liability. A patient fell after getting off the exam table."

"Why wasn't it covered, Bob?"

"It seems the broker had premises coverage on the office package only and not on the malpractice policy. Each company denied the claim saying it belonged to the other."

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"No, it can't. Our broker, Bill Garrett, added premises to ***both*** policies we carry. That keeps us covered no matter what happens."

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One of the most difficult things encountered in the world of computers is wading through all the technical terminology used to describe computer hardware (the computer and monitor) and software (the programs installed on the computer that perform various functions). I have put together a group of the most used terms and their explanations.

Application Software The instructions that cause the hardware parts to work together to perform a specific function.

Backup A duplicate copy of a file or an entire diskette that is stored on a different diskette as a protective means against the accidental loss or destruction of the data. Crucial data and programs should be backed up.

Bad Sector A location on the diskette on which DOS is unable to record information. The CHKDSK DOS command displays the number of bad sectors on a diskette.

Batch File A collection of commands that can be run in one operation. A batch file is a file containing one or more DOS commands. All batch files must have an extension of .BAT. Enter only the file name to run the batch.

Boot The loading and running of a few program instructions that in turn load the remainder of the program. Booting the DOS operating system causes the loading of certain parts of DOS in memory and is done when starting the computer from power OFF. This is also called a COLD BOOT. You can also boot the DOS system with power ON. Restarting the system when the power is already on is called a system reset or WARM BOOT.

Byte A computer term representing a single character. It is the smallest unit of computer memory with which the hardware can work. The CHKDSK and FORMAT commands report the available and occupied space on a diskette in the number of bytes.

Chip An electrical component made of a wafer-thin slice of silicon housed in a ceramic or plastic casing with metal contacts. Chips are designed for a specific purpose: there are microprocessor chips, memory chips, math chips.

Console The keyboard and video screen of the personal computer. The console is a reserved device that DOS names CON. When specifying CON as a file spec in the COPY DOS command, you enter either CON or CON: .

Current Directory In a tree-structured directory system, DOS will search this directory if you enter a filename without indicating to DOS which directory the file is in. The CHDIR command is the DOS command to use to find out what the current directory is or to change the current directory.

Diskette The most commonly used type of disk storage for microcomputers consists of a round vinyl disk enclosed in a square plastic cover and generally stored in a diskette envelope.

Diskettes are not all the same, nor are they formatted all the same. Types include:

Single-sided - formatted for 160K or 180K
Double-sided - formatted for 320K or 360K
High-density - formatted for 1.2 M
(K=1024 bytes, M=1,048,576 bytes)

DOS Acronym for Disk Operating System. The program responsible for allowing you to interact with the many parts of a computer system. DOS is the interface between you and the hardware. DOS is responsible for keeping track of information stored on the disks, managing information moving between disk and the PC system, organizing information on disks, and other useful PC functions.

Edlin A program used to create, change(edit), and display lines of text. EDLIN stands for Line Editor.

Field A database term. A typical database containing names and addresses of company employees will contain a name field, an address field, a city field, for each employee's record.

File A collection of data or programs. A file is stored on a diskette and given a name so that you can recall it for use at a later time.

Fixed Disk A high speed Winchester-type disk on which thousands of files can be stored. A fixed disk can be divided up into separate areas called partitions. From one to four partitions are permitted on a fixed disk.

Format A DOS file management command that prepares blank disks for use. Use caution when formatting a non-blank disk: FORMAT C: will erase the entire hard disk.

Global Characters The two special characters * and ? that provide for greater flexibility with the DOS commands. Both characters can be used within the file name and/or file name extension. Global characters are also called wild cards. Global characters can be used in the following DOS commands: COPY, DIR, ERASE, and RENAME. Global characters should be used with caution, however, because used in the ERASE command they could cause multiple files to be erased with a single command.

Hidden Files These are the DOS system files IBMBIO.COM and IBMDOS.COM, which are hidden from the normal directory searches. This means these files are not displayed when the DOS DIR command is entered.

Integrated Software A type of software that combines two or more application programs into a single package. Integrated software allows data from one program function to be used in another and simplifies operations by using consistent commands and keystrokes throughout. A typical integrated software package might include word processing, database, and spreadsheet components.

LAN Local Area Network. A set of PCs that are linked together for the purpose of sharing peripherals

and or data. LANs are usually limited physically to a single office or building. Although the PCs share resources, each machine also can operate independently.

Microprocessor A chip that serves as the brain of the computer system. The microprocessor controls all computer operations.

Multi Tasking The ability of a computer to run more than one program at a time. Although a microprocessor can perform only one operation at a time, the high speed rotation between programs can make several processes appear simultaneous.

Path The unique route that leads DOS to the directory containing a specified file. The path consists of a series of directory names separated by backslashes (\). If a filename is included, it must also be separated from the last directory unless it begins with a backslash in which case, DOS starts its search from that directory.

Peripheral Devices The pieces of hardware that are connected or attached to the computer itself. Disk drives, printers, and terminals are peripheral devices.

Print Echo This function is performed by pressing the Print Screen key while holding the control key down (CTRL + PRTSCR). Once this key combination is pressed, whatever is shown on the screen is also printed on the printer. The simultaneous printing (screen and printer) continues until the key combination is pressed again. As an alternative Print Echo can be performed using the key combination CTRL + P.

RAM An abbreviation of Random Access Memory, also known as User Memory. This is the memory available to the user for use by the software. RAM is measured in bytes: typical amounts are 64K, 128K, 256K, 512K, and 640K bytes.

RGB Monitor A type of color monitor. The letters R, G, and B stand for Red, Green, and Blue.

ROM An abbreviation of Read Only Memory. This area of memory is used by the system, and cannot be written to by the user. Unlike RAM, ROM remains intact after the power is turned off.

Root Directory When a diskette is formatted, a single directory is created on the diskette. That directory is called the root directory, or system directory. In a nontree-structured directory system, a root directory can contain the names of files. In a tree-structured directory system, a root directory can contain the names of files as well as the names of other directories.

Subdirectory In a tree-structured directory system, all directories other than the root directory are called subdirectories. Subdirectories are actually files and are not restricted in size. Subdirectories can contain any number of files and other subdirectories, limited only by the available space on the disk.

System Reset A system function that restarts your computer just like a power on/off. This function is accomplished by pressing the DEL key while holding the control and ALT keys down. These keys are used to make sure you know what it is you are doing and to avoid a System Reset by accident. This is also known as a WARM BOOT.

Target Drive The drive that information is transferred or copied to. When two drives are involved in a

Examples of Commands

Command	Type	Example
ASSIGN	internal	A:ASSIGN A = B
ATRIB	internal	A:ATTRIB + R MYFILE.BAT
BACKU	Pexternal	A:BACKUP C: A:
BREAK	internal	A:BREAK ON
CHDIR	internal	A:CHDIR/MYDIR
CHKDSK	external	A:CHKDSK B:
COMP	external	A:COMP MYFILE.BAT B:YOURFILE
COPY	internal	A:COPY A:*.* B:
COUNTRY	internal	A:COUNTRY + 329 (ITALY)
DATE	internal	A:DATE
DIR	internal	A:DIR
DISKCOMP	external	A:DISKCOMP B:
DISKCOPY	external	A:DISKCOPY A: B:
DEL	internal	A:DELA:MYFILE.BAT
ERASE	internal	A:ERASE A:*.*
FORMAT	external	A:FORMAT B:/S
GRAPHICS	external	A:GRAPHICS
MKDIR	internal	A:MKDIR
MODE	external	A:MODE LPT#:1,80,6,p
MORE FILTER	external	A:MORE FILTER
PATH	internal	A:PATH LEVEL2;B:
PAUSE	external	PRESS CTRL + NUM LOCK keys or CTRL + S key
PRINT	external	A:PRINT B:MYFILE.BAT
PRINT ECHO	external	PRESS CTRL + PRTSC keys
PRINT SCREEN	external	PRESS SHIFT + PRTSC keys
RECOVER	external	A:RECOVER A:MYFILE.BAT
RENAME (REN)	internal	A:REN MYFILE.BAT YOURFILE.BAT
RMDIR	internal	A:RMDIR A:LEVEL2
RESTORE	external (fixed disk)	A:RESTORE A: C:*.*
SOFT FILTER	external	A:SORT FILTER
SYS	external	A:SYS B:
TIME	internal	A:TIME
TREE	external	A:TREE B:/P
TYPE	internal	A:TYPE B:MYFILE.BAT
VER	internal	A:VER
VERIFY	internal	A:VERIFY ON
VOL	internal	A:VOL B:

data transfer (COPY, DISKCOPY) one is known as the Source Drive and the other as the Target Drive. The Source Drive is the one that provides the data; the Target Drive receives it.

Telecommunications The transfer of data and information from one computer to another via the phone lines. A modem at each end changes the computer signals to phone signals and back again.

Toggle Key Any key that allows you to change state (on/off) each time it is pressed. Examples are the NUM LOCK key and CAPS LOCK key.

Tree Command The TREE (Display Directory) Command is a DOS disk management command that displays all the directory paths found on the specified drive. If the /F option is used, all the files in each sub-directory will also be displayed. For each directory found, the full path name will be displayed, along with the names of any directories defined within it.

Type Commands A DOS command that prints the contents of a text file on the screen. Performing a TYPE command on a non-text file will give you gibberish. If you do a Print Echo before the Type, the output will echo on the printer.

VER Command The VER (Version) Command is a DOS command that displays the DOS version you are using.

Address questions to Bruno Mattiello, Director of Computer Services, 1211 Cathedral Street, Baltimore, MD 21201. (Please include your phone number.) ■

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Brief Summary

Consult the package literature for complete information.

Indications and Usage: Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer. In most patients, the ulcer will heal within four weeks.

Axid is indicated for maintenance therapy for duodenal ulcer patients at a reduced dosage of 150 mg h.s. after healing of an active duodenal ulcer. The consequences of continuous therapy with Axid for longer than one year are not known.

Contraindication: Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other H_2-receptor antagonists.

Precautions: *General* — 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency.

3. Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests — False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

Drug Interactions — No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility — A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice; although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy — Teratogenic Effects — Pregnancy Category C — Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers — Studies conducted in lactating women have shown that <0.1% of the administered oral dose of nizatidine is secreted in human milk in proportion to plasma concentrations. Caution should be exercised when administering nizatidine to a nursing mother.

Pediatric Use — Safety and effectiveness in children have not been established.

Use in Elderly Patients — Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among reported adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs < 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine.

Hepatic — Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients and was possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L) and, in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular — In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

CNS — Rare cases of reversible mental confusion have been reported.

Endocrine — Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic — Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H_2-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental — Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity — As with other H_2-receptor antagonists, rare cases of anaphylaxis following administration of nizatidine have been reported. Because cross-sensitivity in this class of compounds has been observed, H_2-receptor antagonists should not be administered to individuals with a history of previous hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other — Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine administration have been reported.

Overdosage: Overdoses of Axid have been reported rarely. The following is provided to serve as a guide should such an overdose be encountered.

Signs and Symptoms — There is little clinical experience with overdosage of Axid in humans. Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous median lethal doses in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

Treatment — To obtain up-to-date information about the treatment of overdose, a good resource is your certified regional Poison Control Center. Telephone numbers of certified poison control centers are listed in the *Physicians' Desk Reference (PDR)*. In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs, and unusual drug kinetics in your patient.

If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance.

PV 2096 AMP [013089]



Dr. Holwick outside of hospital where she practices as a civilian traumatologist.



Dr. Holwick in operating room at Letterman Army Medical Center.

JANN L. HOLWICK, M.D.

General and Trauma Surgeon.
Captain, U.S. Army Reserve.

EDUCATION University of Southern California, B.S
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Nathan Smith and the Johns Hopkins Connection

Ronald H. Fishbein MD

The lives of Nathan Smith and his descendants touched eight American medical schools: Dartmouth, Yale, Bowdoin, Vermont, Jefferson, Maryland, Transylvania, and Johns Hopkins.

The major events of the year-long commemoration of the Centennial of the Johns Hopkins Medical Institutions will take place June 7 - 11, 1989 in Baltimore with scientific symposia, the unveiling of a US postage stamp honoring Mr. Johns Hopkins, an art exhibit featuring medical masterpieces, gala concerts, and fireworks.

In recognition of this historic occasion, we present the following article describing Nathan Smith, his sons, and his grandson, Dr. Alan Penniman Smith, a little-known figure who came to play a pivotal role in the organization and building of the Johns Hopkins Hospital and Medical School. *Editor*

Dr. Fishbein is Associate Professor of Surgery at the Johns Hopkins Medical Institutions and is a general surgeon in private practice.

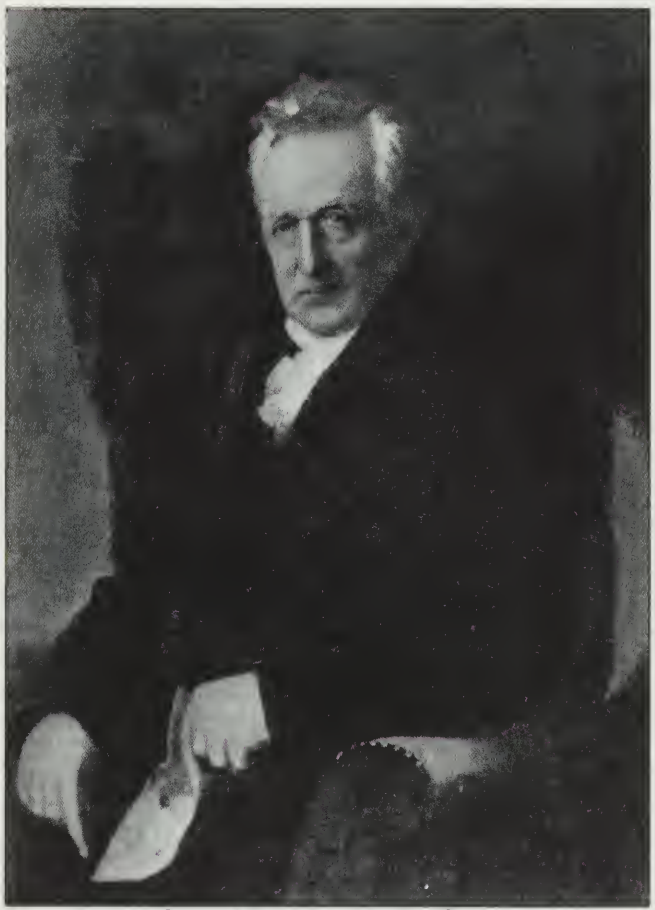
As we approach the centennial of The Johns Hopkins Hospital and the medical school of The Johns Hopkins University, it is appropriate to identify certain individuals whose participation in the establishment of the two institutions may have been eclipsed by the brilliant achievements of those who were to follow. In large measure, the early successes of Hopkins medicine were due to the assembly, from throughout the world, of an enormously talented faculty. However, much of the concept for the development of this unique hospital/medical school/ university complex originated in the city of Baltimore as the product of the efforts of a number of its visionary citizens.

One such person was Alan Penniman Smith MD. Born to a family renowned for its leadership in American medicine, Dr. Smith came to play a pivotal role in the organization and building of the hospital and medical school. There is anecdotal evidence that Alan Penniman Smith first generated the concept of such a medical facility. To appreciate the legacy of this man it is best to review his heritage, for it uncovers a portion of the history of American medicine and of medical education.

Prior to 1800, there existed in this country only four schools devoted to the training of physicians. The youngest of these, located in Hanover, New Hampshire, was associated with Dartmouth College. Its founder and sole faculty member was the ambitious and able Nathan Smith.

The story of this remarkable man's life and that of the generations succeeding him began in a small New England village and ultimately led to an important event in Baltimore 100 years later. A modest experiment in early medical education in the United States, shepherded by an unusual family, led to a bold new design for educating and training physicians.

Born in 1762, Nathan Smith spent his youth on a farm in a wilderness area of Vermont inhabited by Indians unreceptive to encroachment upon their lands.[1] Curiosity and the chance opportunity to assist an itinerant surgeon with an amputation led the young school teacher-farmer to become apprenticed to that surgeon. Demonstrating remarkably good judgment, Smith's mentor-to-be Dr. Josiah Goodhue of Putney, Vermont, insisted that young Smith prepare himself more soundly for medical studies by first fulfilling the requirements for admission to the Freshman class at Harvard College.[1,2] By 1787, his three years of apprenticeship with Goodhue completed, Smith entered practice in Cornish, New Hampshire. After serving the region for two years, the young physician recognized his need for further formalized education. This led to his enrollment in the new medical school associated with Harvard College and the acquisition of one of its first MB degrees in 1790.[3] He returned to Cornish, married, started a family, and soon became a respected practitioner traveling the countryside on horseback to attend his patients.



Nathan Smith MD, from a portrait by S.F.B. Morse.
Presented to the Yale Medical School by the Class of 1826.

After several years he was plagued by the notion that many other young men aspired to become physicians but lacked the proper opportunities. Only three medical schools existed in early post-Revolutionary United States, those associated with the University of Pennsylvania, Columbia College, and Harvard College.

Dartmouth

Boldly, Smith conceptualized a plan for the establishment of a Chair in the Theory and Practice of Medicine and presented it to President John Wheelock and the Board of Trustees of Dartmouth College in 1796. His proposal to Dartmouth was adopted, setting in motion his appointment as professor, the bestowal of a master's degree, and the assignment to deliver public lectures in Anatomy, Surgery, Chemistry, and the Theory and Practice of Physic. Thus was launched, in the Summer of 1798, a most ambitious educational experiment, the Medical School of Dartmouth. Its success was immediate; students came from great distances.

Married in 1791 to the young daughter of the heroic Revolutionary War General Jonathan Chase, Smith had soon become a widower. He subsequently married his wife's half sister, Sarah Hall Chase. Over the next 25 years, this fruitful union produced 10 children. The first two sons, David Solon Chase Hall and Nathan Ryno, were born prior to the start of the Dartmouth venture.

To honor his efforts as practitioner and scholar, in 1801 Dartmouth conferred upon Smith the MD degree. During the ensuing decade he gained enormous satisfaction from the constant procession of students through the institution as well as the growth of his family. In 1811 Harvard awarded Smith an MD degree, and the New Hampshire State Medical Society chose him as President. He vigorously pursued the enactment of laws to prevent quackery and to improve control over medical practice.[4] Simultaneously his clinical competence as a surgeon carried his name throughout New England.

However, deep political divisions in the state legislature prevented the medical school at Dartmouth from receiving the support necessary for its continued growth. Only after Smith's strenuous personal petition did the legislature, with great reluctance, supply necessary funds for building and equipment. After 15 otherwise successful years Dr. Smith's discouragement with these impediments led him to seek new challenges.

Yale

In 1812 the Corporation of Yale College, in concert with the medical society and the General Assembly of the state of Connecticut decided to establish a medical department at that school.[5] The fame of the 50-year-old Nathan Smith as an organizer and teacher as well as a practitioner of medicine and surgery led to an

invitation to come to New Haven. He did not break faith with those who had selected him to launch the new medical school at Yale. Along with colleagues Munson, Ives, Silliman, and Knight, Smith soon made the school a success. Personal fulfillment also flowed from witnessing the medical education of his eldest sons, Solon and Ryno, at Yale.

Bowdoin

In 1820 Smith was summoned to the new state of Maine when the legislature established and endowed the Medical School of Bowdoin College at Brunswick. In the spring of 1821 he arrived in Maine to commence his lectures and clinics and to perform numerous surgical operations. This he did without relinquishing his position at Yale where he continued his activities during a different portion of the year.

The eldest sons had graduated from medical school, and it appeared that Nathan Ryno was destined to follow most closely his father's career. In addition to all the scientific and leadership qualities of the senior Smith, it became evident that Ryno would also possess a literary and scholarly talent. After receiving his undergraduate degree from Yale in 1817, Ryno was employed as a classical tutor to the family of Mr. Thomas Turner of Fauquier County, Virginia. In a little over a year he developed a life-long devotion to the South. However, he returned to New Haven to study medicine, receiving an MD degree in 1823.[6]

University of Vermont

Within months of the creation of the medical school at Bowdoin, the University of Vermont founded a medical school in Burlington. It was only natural that the assistance of New England's most experienced designer of such institutions be sought. Nathan Smith obliged. It was convenient that Ryno was available and could help his father in this venture. Within a year Ryno received an appointment as Professor of Anatomy and Physiology. The senior Smith became a special lecturer in Surgery and consultant on the organization of the faculty. For three consecutive years, until the fall of 1824, Nathan Smith divided his time between academic responsibilities among the schools in Connecticut, Maine, and Vermont. Death came to him in 1829.

Events moved quickly for Ryno after his appointment at the University of Vermont. He depended on and received the advice of his father with respect to academic and organizational matters. In the style of his father-mentor, Ryno took leave to attend the University of Pennsylvania under the tutelage of Philip Syng Physick. This was to prepare himself more completely for scholarly pursuits.

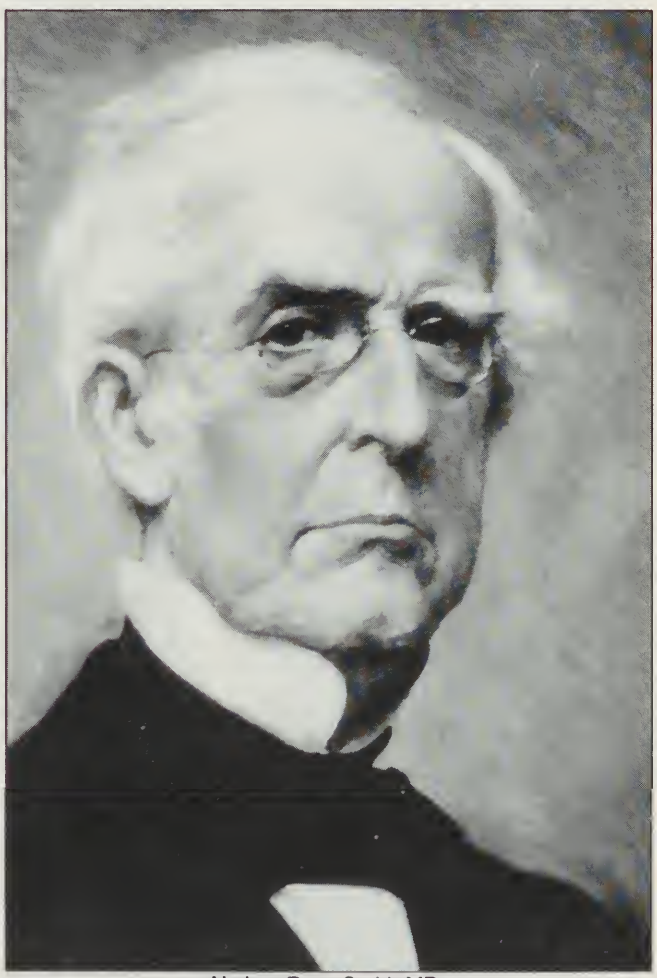
Jefferson Medical School

Whatever his intentions may have been with respect to a career in New England, his meeting in Philadelphia with a former college acquaintance, Dr. George McClellan, profoundly shaped his future. So impressed was Ryno with Dr. McClellan's clinical and pedagogical skills that he unhesitatingly accepted the latter's invitation to participate in the inauguration of the Jefferson Medical School in 1825. Resigning his post in Vermont (where only recently he had been granted the chair in Anatomy and Surgery), Ryno left for Philadelphia to join the faculty of that city's second medical school.

After only two sessions in Philadelphia where he served as Chairman of Anatomy and became a founder of the *Philadelphia Monthly Journal of Medicine and Surgery* and associate editor of the *Medical Review*, he again prepared to change venue.

University of Maryland

Before his roots could be established in Philadelphia, he was beckoned to the University of Maryland in 1827. Founded nearly a quarter century earlier, the Baltimore school was the fifth such institution in the nation and was well established by the time of Nathan Ryno Smith's appointment. Though invited as chair-



Nathan Ryno Smith MD,
known as "the emporer." Oil painting is hung at Med Chi in the Executive Director's Office.

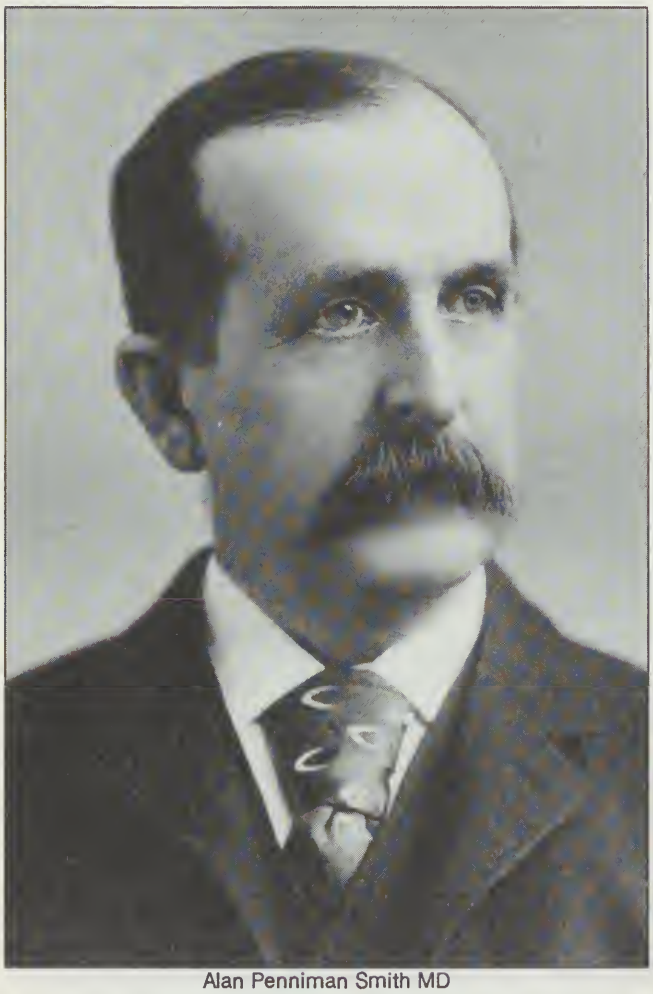
man of anatomy, he arrived in 1827 to find he had been granted the chair in surgery recently abandoned by the precipitous departure of Granville Sharp Pattison.[7] Thus began, on an inauspicious note, a long and glorious, although not uninterrupted, relationship between Ryno and the first institution in the South to come under the influence of the Smith family.

Although the reasons for his apparently sudden relocations are veiled in uncertainty, there can be no doubt concerning the positive impact he made during his 50-year-tenure in Maryland.

For one brief period between 1838 and 1840, because of serious administrative turmoil at the University of Maryland, Ryno resigned from his position and accepted, without moving his home from Baltimore, the chair in surgery at the University of Transylvania in Lexington, Kentucky. When peace was restored to the Maryland school, Ryno resumed his activities on reappointment.

The second phase of Ryno's career at the University of Maryland was entered with great enthusiasm, buoyed by his growing international reputation as well as by the support of the Baltimore community.

As with his father, his career reached its zenith near the age of 50. In the annals of Maryland medicine he was recognized as one of the greatest surgeons America has produced.[8]



Alan Penniman Smith MD
Photo courtesy of Mrs. Charles Cockey,
Alan's great-grandaughter.

The joy of witnessing his four sons graduating successively into medical careers turned to tragedy in the early deaths of three. Left to continue a family tradition was Alan Penniman Smith. This third son, born in 1840 (the year his father returned to the faculty at the University of Maryland) entered Princeton at age 16, but the untimely death of one of his siblings, that very year, led to the decision to bring Alan home. He continued his studies at the school known as St. Timothy's Hall in Catonsville. In the fall of 1858, under the scrutiny of his father, Alan began the study of medicine, completing the entire curriculum by 1861.

An anecdote revealed in later years speaks to the confidence in each other and in themselves that was a hallmark of this family. In all likelihood, Alan's first experience being thrust into the position of assistant to his illustrious surgeon-father came when he was a medical student in 1860. Called by his mother to the bedside of one of his sisters who had been seized with pain, he recognized the gravity of the situation and summoned his father. After a rapid appraisal of his daughter's condition, Nathan Ryno pressed his son to assist him and his wife to provide illumination, while he operated on the stricken girl for strangulated hernia. Without benefit of anaesthesia the patient maintained her composure, warning her mother to be careful not to allow the candles to burn the hair of the surgeons bent over her. She was rewarded with complete recovery.[9]

Civil War hostilities had begun by the time Alan Penniman Smith received his medical degree. Passions erupted early in the border state of Maryland where the foe often could be found in one's own family.

While the great battles of the Civil War were taking their toll, Alan remained with his father, developing not only surgical skills but also the astute clinical judgment he apparently inherited from both father and grandfather. In 1862 he married Emily Anna Jones, daughter of the late Andrew Dickson Jones, Esq. and Mary J. Jones.

July 10, 1863 signalled the devastation known as the Battle of Gettysburg. Word arrived in Baltimore of the need for surgical supplies. Alan and several colleagues proceeded to the battlefield to aid in the care of the wounded. Not long afterward the Smith family was notified that on that day their youngest son expired, falling victim to typhoid fever contracted in the Confederate Army Hospital in which he served. The bond between Alan and his father was further strengthened by this event.

Baltimore in the postbellum period was a city undergoing remarkable social and economic growth. Despite the rapid expansion of commerce and industry, vast pockets of poverty and unemployment existed. Sanitation was primitive, and sickness and industrial injuries reached significant magnitude. With a sense of mission young Dr. Alan Smith entered this setting.

Aware of the health needs of a large indigent population and out of medical school scarcely five years, Alan approached his friend and neighbor, the enormously wealthy merchant and industrialist Johns Hopkins, with the hope of obtaining a contribution toward the establishment of a free dispensary. Mr. Hopkins appeared to be interested in the young physician's proposals, but after several meetings in 1865-1866 no commitment was forthcoming. Just when Alan began to assume the fruitlessness of his efforts, Hopkins called for him and unfolded before him a grand plan for establishing a free dispensary as part of a vast hospital equipped for the care of the sick, both rich and poor. An equal sum was to be bequeathed to establish a University, based on the grounds of the 400-hundred acre family estate, Clifton. By age 25, Alan Penniman Smith had begun to travel the very same road his father and grandfather had journeyed.

With the revelation of his plans, Johns Hopkins invited Alan to be a trustee of the proposed hospital. He was the youngest, as well as the only physician, member of the board. In August 1867, Mr. Hopkins again honored Alan by naming him, along with eleven others, an incorporator of the Johns Hopkins University.[9,10]

By this time Ryno was 70 years old, and although actively practicing and continuing to hold the Chair of Surgery, he began to rely more heavily on his only surviving son, Alan, to care for their mutual patients. At a major public reception in Baltimore, fellow citizens and professionals expressed their admiration for the man who, until then, had occupied the Chair in Surgery for 40 years. In his response to this outpouring of adulation he was quoted on September 20, 1867 as having said

> A distinguished and wealthy citizen of our own community, I am happy to say, contemplates the early foundation of an institution which will cause his name to be ever revered by suffering humanity.[11]

This, most likely, was the first public announcement of the plans of Johns Hopkins, inspired by Alan Penniman Smith. The year 1870 was marked by the elder Smith's appointment as Emeritus Professor as well as his election for a two-year term as President of the Medical and Chirurgical Faculty of Maryland.

Alan began to develop an active general as well as surgical practice. Like both his father and grandfather he demonstrated enviable skill as a lithotomist, employing to perfection the instrument devised for this purpose by Nathan Ryno.[8] In 1878 he published a critically acclaimed report of his first 52 consecutive operations for bladder stone without a single loss of life.[12] He became a member of the staff of nearly every hospital in Baltimore.

In 1868 Alan Penniman Smith was elected adjunct Professor of Surgery at the University of Maryland and in 1875 became Professor of Operative Surgery, a position he held for only two years, voluntarily relinquishing it due to the pressure of an enormous private practice and a stated distaste for writing and for preparing lectures. He did enjoy the opportunity to teach at the bedside, in clinics, and in the operating room and was personally responsible for the training, by preceptorship, of a number of surgeons.

On March 10, 1873, Mr. Hopkins transmitted to the trustees of the hospital what is now considered to have been a landmark communication signaling his clear intentions regarding the institution and thereby initiating the birth of the Johns Hopkins Hospital. Alan Penniman Smith began to devote the remainder of his life to the project on which his name and those of future members of his family would become indelibly impressed. The great benefactor, Mr. Johns Hopkins died December 24, 1873, at age 78.

After receiving the Hopkins bequest in 1875, the Trustees of the Johns Hopkins University rapidly proceeded to obtain a temporary site for the institution as well as to invite Daniel Coit Gilman to accept the presidency. By the fall of 1876, Dr. Gilman was inaugurated, an outstanding faculty had been assembled from around the world, and classes had begun.[13] In sharp contrast, progress by the Johns Hopkins Hospital Board was methodical but agonizingly slow. Four years after solicitation of architectural plans and final adoption of the remarkably innovative design by John Shaw Billings, excavation was begun in June 1877.[14]

As a member of the building committee and the only physician on the hospital board, Alan was particularly aware of his responsibilities and devoted a great deal of time to overseeing construction. While time dragged and completion of the hospital seemed remote, a schism developed between board members who preferred to delay opening the institution until construction was completed and the entire professional staff was assembled and a group that lobbied for early initiation of services. Pragmatic Alan aligned himself with the unsuccessful minority who reluctantly consented to defer operations until construction was complete. Ironically, though the hospital did not formally open to receive patients until the Spring of 1889, it was Alan Penniman Smith who treated the first recorded patient at the Johns Hopkins Hospital, ten years earlier. According to the minutes of the Board of Trustees of the hospital, on July 15, 1879 the foreman of the bricklayers, working on the kitchen building fell to the cellar, a distance of about thirty feet

> braking his right leg below the knee and otherwise injuring himself. He was removed to the basement of the Octagon Ward and Dr. Alan P. Smith was sent for who dressed the fractured limb. A room was afterward fitted up and furnished in the basement of the Male Pay Ward (now called Lower C) and the patient removed thereto. He fully recovered from this hurt, dying several years after from other causes.

Dr. Henry R. Hurd, the first Superintendent of the hospital and personal friend of the Smith family, in a paper read before the Book and Journal Club of the Medical and Chirurgical Faculty, declared that Alan P.

Smith was offered the position of surgeon-in-chief of the Johns Hopkins Hospital, but declined it.[15] Nowhere else is this claim corroborated.

Elected to fill a vacancy on the Board of Trustees of the Johns Hopkins University in 1881, Alan again held an unsuccessful minority position by emphatically supporting what he knew to be the strong personal desire of the founder for the university to be located on the grounds at Clifton. The majority view prevailed, and the campus was relocated from its temporary quarters in the city to a beautiful site known as Homewood.

Alan's eldest son, Nathan Ryno Smith, Jr. attended the new Johns Hopkins University soon after its opening and then received his medical degree from the University of Maryland, eventually enjoying the appointment as an assistant physician in the dispensary of the Johns Hopkins Hospital. He became the fourth generation of Smith physicians.

In Spring 1890, Alan's second son, Walter Prescott Smith received his medical degree from the University of Maryland, served as an intern at the Lombard Street Infirmary, and then returned to work in the office of his father and brother where he devoted himself to the treatment of throat and chest diseases. He distinguished himself as a founder of the Hospital for Consumptives later known as Eudowood.

The final years of Alan Penniman Smith's life were plagued by ill health that nearly incapacitated him. By the time he died (at age 58 in 1898) he had the satisfaction of witnessing not only the opening of the Johns Hopkins Hospital and University but also, finally, the inauguration of the long-awaited medical school in 1893.

Alan's eldest sister, Frances, married Dr. Elisha Warfield Theobald and had a son, Samuel Theobald (1846-1930), who received his medical degree from the University of Maryland in 1867. He studied Ophthalmology and Otology in Vienna and London, then returned to Baltimore. A proflific author of scientific articles and a founder of the Baltimore Eye, Ear and Throat Charity Hospital, he joined the staff of the Johns Hopkins Hospital at its opening in 1889. In the absence of an organized department, Samuel Theobald was obliged to limit his activities to practicing and teaching in the dispensary.[16] In 1906 he published a major textbook, *Prevalent Diseases of the Eye,*[17] in which he was identified as Clinical Professor of Ophthalmology and Otology in the Johns Hopkins University.

Samuel Theobald's sister Ruth married George von S. Longcope. Their son, Warfield Theobald Longcope (1877-1953) received his undergraduate and medical education at Johns Hopkins.[18] A student of Osler, Welch, Kelly, and Halsted as well as Howell and Mall, he soon discovered the delights of medical investigation. First as a pathologist then as a clinician (reminiscent of the interests of his great grandfather, Nathan Smith), he delved into studies in microbiology and the specific etiology of a variety of diseases.

Working at the Philadelphia Hospital with Simon Flexner, Longcope was appointed as an assistant professor of applied clinical medicine at the University of Pennsylvania. In 1911 he became Professor of Medicine at Columbia University and director of the medical service at the Presbyterian Hospital. In 1922 he was the fifth appointee to the chair in medicine at Johns Hopkins. His seminal work on diseases and injuries of the kidney as well as investigations and description of sarcoidosis remain benchmarks for all subsequent medical inquiry.[19]

It may never be possible to establish the moment in time nor the factor or person responsible for prompting Johns Hopkins to establish a medical institution. He left little personal correspondence, hence his biographers have suffered from a lack of insight into his noncommercial interests. He seems to have been a very private man who, without children to record or to embellish upon his philosophy, left to speculation his philanthropic motives.

He was a member of the Society of Friends and, as a practicing Quaker, was committed to a belief in the dignity of man and to the care and protection of those in need. He was a member of the Board of Visitors to the Maryland Hospital for the Insane at Baltimore, where the Johns Hopkins Hospital was built after the former institution moved its facilities to the country.

It has been written that the world-class philanthropist George Peabody persuaded Mr. Hopkins that it was more pleasant to give money away than it was to make it.[20] Hopkins, only months before his demise, had occasion to tell Alan Smith that he regarded himself merely as the watchdog guarding the treasure.[9]

In 1865 no individual could have been indifferent to the privations caused by the Civil War. Baltimore was the crossroads between the Union and the Confederacy, and the ill and injured moved through the city in both directions. Undoubtedly these factors helped kindle Mr. Hopkins' sensibility and prepared him for the contribution he was to make. It is tempting to assign credit to Alan Penniman Smith (family friend, neighbor, and eventually personal physician to the benefactor) for implanting the original idea for the medical institution.

Thus, eight American medical schools (Dartmouth, Yale, Bowdoin, Vermont, Jefferson, Maryland, Transylvania, and Johns Hopkins) have been touched by the lives of Nathan Smith and his descendants. Their impact on two centuries of American medical education as organizers, teachers, practitioners, and scientific investigators can scarcely be estimated. As the greatness of Nathan Smith was honored on the hundredth anniversary of the founding of the Yale Medical School, the contribution of subsequent generations of his family will be remembered upon the occasion of the centenary of the Johns Hopkins Medical Institutions in 1989.

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What Physicians Should Know about Small Area Variation Analysis

Vahé A. Kazandjian MPH, Peter E. Dans MD, and Leonard Scherlis MD

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Geographic variations in the use of medical care may occur because of differences in patient severity of illness, patient access or use of medical care, physician practice patterns, availability of technology, economic incentives, and malpractice concerns. These variations are leading to greater scrutiny of appropriateness and cost effectiveness of medical care.

Wide variation in health care utilization has always existed. As early as 1856, Dr. William A. Guy, a physician at Kings College Hospital in London, reported that inhabitants of the parish of St. Mary-le-Strand were hospitalized 325 times more frequently than those of the district of Marylebone.[1] In explaining the disparity, he characterized Marylebone residents as an increasing class of working men, in receipt of good wages, who are in the habit of applying to hospitals as a matter of course, even for trifling attacks of illness, to say nothing of those which sometimes follow immediately on expensive acts of self-indulgence. It is hard to believe that these words were written over 125 years ago.

The presence of such variations in health services utilization between countries of wide economic disparity (for example, the United States and India), and even between geographic areas in the United States has been repeatedly confirmed. A recent study by Howell and McLaughlin demonstrated that widespread variations in health care utilization were documented as early as 1917 in the United States.[2] Although some of the variations could be related to geographic differences in household income, population size, and availability of health care resources, significant regional variation remained unexplained. The disparity in care as well as in available facilities in urban and rural areas was vividly presented in congressional testimony in the 1930s and 1940s.[3] This led to the enactment in 1947 of the Hill-Burton Act, a federally subsidized hospital building program.[4]

Medicare and Medicaid were enacted in 1965 to eliminate variations related to problems with access (mainly to acute care facilities) by the elderly and the poor.[5] In providing for these programs, little attention was paid to the role of the patient and of the physician in inducing demand. The assumption was that these programs would merely assure that disadvantaged groups would now receive care equal to that of those who could finance it.

However, the addition of Medicare and Medicaid to the already increased availability of employer-guaranteed health insurance (first introduced in 1930) clearly helped fuel a marked increase in the delivery of patient care. A major contributing factor was the explosion in diagnostic and therapeutic technology, which enabled physicians to do more for patients. Health care programs were expanded in scope to care for more patients with chronic and disabling conditions in addition to the acute conditions for which health insurance was designed.

In 1973, the report of Wennberg and Gittlesohn on health care utilization rate variations for tonsillectomy and adenoidectomy between counties and neighboring towns in Vermont, Iowa, and Maine[6] again focused attention on the issue of small area variation. Their study suggested that some of the difference in utilization was due to physician preference and to outdated medical practices. Recent studies by the Rand Corporation of coronary bypass surgery, coronary angiography, carotid artery surgery, and endoscopy[7,8] confirmed the widespread existence of such variations.[9]

Variations in utilization rates have also been demonstrated in Maryland. We illustrate some examples of these variations for carotid endarterectomy (range: 0.8 - 7.9 per 10,000 population), laminectomy (range: 3.2 - 17.8 per 10,000 population), cesarean section (range: 17 - 37 per 100 deliveries), and prostatectomy (range: 199 - 424 per 10,000 males 65 years and older) (see Figures 1,2,3,4).

Because of the importance of these variations, a Committee on Small Area Variation was formed in 1986 by the Medical and Chirurgical Faculty of Maryland as a successor to the Committee on Cost-Effective Medical Care. This committee is charged with working with the Maryland Hospital Association, the Maryland Department of Health and Mental Hygiene, and others to explain hospital utilization variations in Maryland.

In the late 1970s and early 1980s, these variations were discovered by health care policymakers interested in cost containment. Early discussions of these variations often proceeded along these lines: (1) the higher utilization rates were inappropriate, (2) the physician was the primary person responsible for the increased

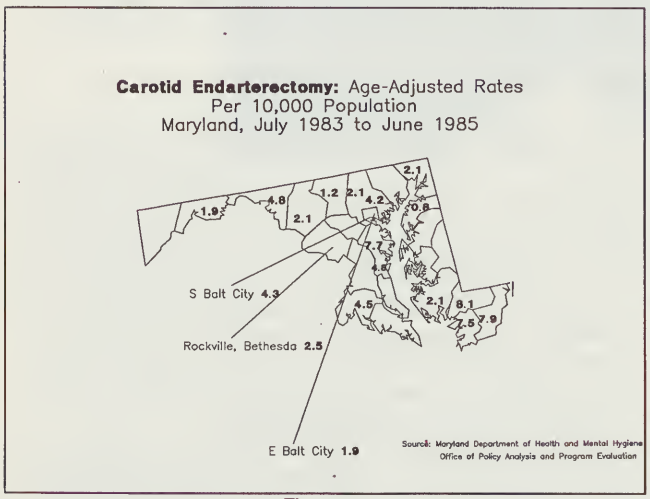


Figure 1.

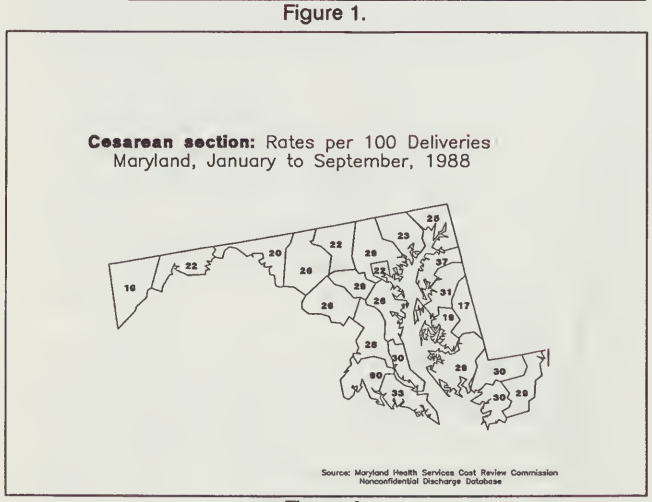


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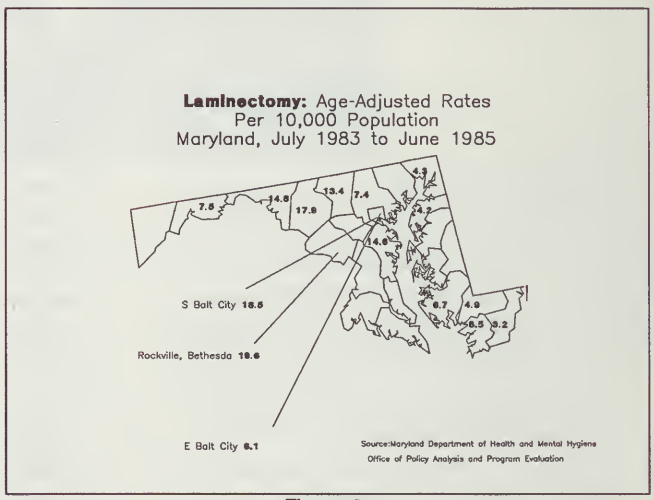


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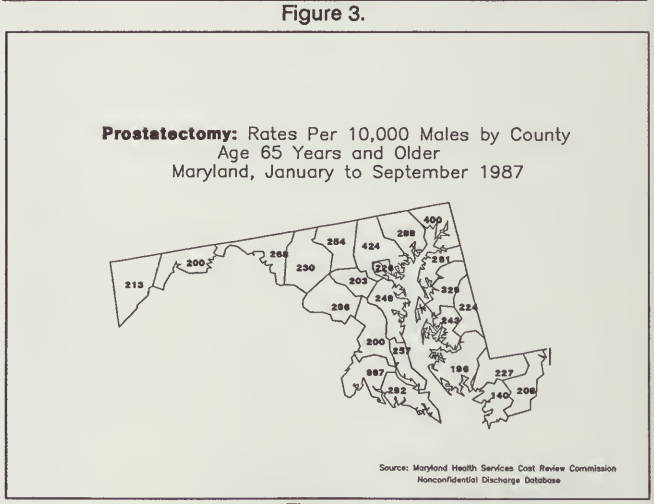


Figure 4.

Note: Not all counties have their data reported

utilization of health resources, and (3) the major incentive for the increased services was economic in nature. Each of these conclusions as well as their sequential linkage have been challenged.[10] Even so, variations in health services and costs are large enough to warrant investigation. Questions that should be answered include: How much of the variation represents underutilization or overutilization? How much of any excess or deficit is indeed due to physician practice patterns? How much is due to financing incentives? How much is driven by patient demand for services or lack thereof?

In an attempt to inform physicians about this important issue, members of the Small Area Practice Variation Committee undertook this review.

SAVA Methodology

Small area variation analysis (SAVA) uses population-based epidemiological methods for calculating and comparing rates of hospital utilization. The rate is the ratio of the number of residents receiving care for a particular condition during a period of time divided by the population in that area. There are a number of methods used to define an "area."[11] For instance, an area could be a county or a hospital service area defined as the region from which a hospital draws 80 percent of its patients. While rates can be compared for an entire population, one tries to estimate the rate of performance of specific procedures in the population at risk. Appropriate statistical tests can be used to assess the level of significance when variation is detected. For example, for tonsillectomy and adenoidectomy, the pertinent population would be the number of 1 to 18 year olds in each area. For prostatectomy, males over 65 years old would be the relevant population, and for hysterectomy, women over 45 years of age. Procedure rates for such groups can then be compared to an external reference point (the average for the region, the state, or the nation). The Table shows the rates for these procedures in Maryland compared to those cited by Wennberg and Gittlesohn,[12] as well as those by Stockwell and Vayda in Canada.[13]

Table. Hysterectomy, Tonsillectomy, and Adenoidectomy: Variation in Direct Age-adjusted Rates. Maryland and Other Areas.

Area	Hysterectomy Range of Rates per 10,000 Female Admissions	Tonsillectomy/ Adenoidectomy Range of Rates per 10,000 Population[1]
Maryland[2]	34 - 66	12 - 42
Maine, Vermont, Rhode Island, Connecticut, New Hampshire[3]	25 - 89	11 - 63
Ontario (Canada)[4]	41 - 203	23 - 191
Ontario (Canada)[5]	22 - 80	20 - 81

1. Represents the population age 1 to 18 years
2. Office of Policy Analysis and Program Evaluation. Maryland Department of Health and Mental Hygiene, December 1986.
3. Wennberg and Gittelsohn, Sci Am 1982.
4. Stockwell and Vayda, Med Care 1979.
5. Vayda et al. Can Med Assoc 1984.

Another commonly used method of comparison is to display the magnitude of the difference between the highest and lowest rates for a given procedure as performed in different counties, states, or other population areas. Although the graphic nature of this depiction can rivet the attention of policymakers and payors, the data may be of questionable statistical validity since the variations at the extreme may be due to small sample size.[14-16] For example, comparing the ratio of the highest to the lowest rates for carotid endarterectomy (7.9/0.8), demonstrates a 9.8-fold variation between Kent and Worcester counties from 1983-1985 (Figure 1). The rest of the county specific rates of carotid endarterectomy showed much smaller differences. However, there were only 4 patients in Kent versus 55 in Worcester. When extreme values are considered, such small sample sizes can result in artifactual differences.

Where the sample size is sufficient for inferences to be made (for example, in the case of the Anne Arundel and Wicomico county rates for carotid endarterectomy 7.7 and 8.1/10,000 respectively, Figure 1), one tries to determine if the difference is significant (beyond two standard deviations from the mean or outside the 95 percent confidence limits). If it is, the inevitable question is: Why do these differences exist? If, as insurance companies, other payors, and policymakers would like to believe, the more appropriate rate is the lowest one, then the excessive numbers of procedures would represent overutilization and a significant excess in charges. But low rates might represent underutilization and insufficient access to care. Not being able to determine which is true has resulted in increasing pressures to develop guidelines for the performance of the procedures against which the appropriateness of a given procedure can be measured. Employee benefit managers, fiscal intermediaries, and the Health Care Financing Administration are working to develop such guidelines.[17,18]

Reasons for Variations

What, besides apparently inappropriate care, can explain such variations? There may be differences across geographic areas in patient severity of illness. This does occur in some instances. Susan Horn *et al.* have demonstrated large and statistically significant interhospital differences in patient severity among six hospitals.[19] Specifically, their study showed that the actual distribution of severity levels among the six hospitals was not reliably explained by hospital type

(teaching, nonteaching) or by resident-to-bed ratio. The use of areawide data may mask such hospital-specific differences.

A second reason for the variation could be patient pressures for receiving certain services. There is some accumulating evidence that this may play a role, especially, as Dr. Guy noted in 1856, in instances where patients have greater access to the health care system. Socioeconomic status, availability of insurance, cultural parameters, and educational levels are contributing factors.[20] For instance, the coronary bypass surgery rates are higher among whites than blacks with the same severity of illness.[21,22] Patient and physician scheduling preference has been cited as a partial explanation for differences in cesarean section rates;[23-25] however, a new study suggests that physician preference is a much more important determinant.[26]

A third reason for variation is differences among physicians. As Osler said, "medicine is the science of uncertainty and the art of probability."[27] Physicians differ as to the frequency with which they perform laboratory tests or actively intervene therapeutically. Such practice differences are more likely when there is less of a consensus in the diagnosis and treatment of particular conditions.[28,29] Wennberg's studies show that the variation is lowest where the indications are well-defined and the procedures well-accepted, such as for repair of inguinal hernia and hip fractures. For newer procedures, such as coronary bypass surgery, the variation is greater; and, for medical treatments, even greater.

To explain these differences a group at Rand has undertaken a number of retrospective studies using consensus criteria developed by a national panel of experts to define the appropriateness of the indication for specific procedures.[7,8] They found substantial inter-rater variability among three panels of physicians asked to rate the appropriateness of a large number of indications for six medical and surgical procedures. The panelists clearly agreed on ratings for 42 to 56 percent of the indications and clearly disagreed in from 11 to 29 percent for five of the procedures. The disagreement was even greater for colonoscopy. Since the judgment of appropriateness or inappropriateness is not an absolute, the panel used only those criteria where the panelists clearly agreed. They applied these criteria retrospectively in a review of records from patients undergoing coronary angiography, carotid endarterectomy, and upper gastrointestinal tract endoscopy in a number of geographic areas. They identified inappropriate use in 17 percent of coronary angiography cases, 32 percent of carotid endarterectomies, and 17 percent of upper gastrointestinal tract endoscopies. Such findings cannot be accepted uncritically but certainly can serve to initiate an educational exchange.

Economics and Technology

A fourth explanation is the economic incentive. Some have suggested that physicians wish to maintain a target income and that they perform procedures to guarantee this level. For example, a cesarean section is reimbursed at a much higher rate than a vaginal delivery even though the latter is often more time consuming and difficult for both provider and patient. Rice[31] investigated the target income hypothesis in a study of the practice pattern of physicians before and after Medicare in Colorado. Induced demand was demonstrated by the increase in both overall surgical services as well as more highly intensive surgical services per patient. Some of these changes probably represented the performance of previously deferred services. Nonetheless, reimbursement clearly led to greater frequency in the performance of given procedures, especially in the face of uncertainty about their indications.

A fifth reason is the increased availability of technology that provides another stimulus for increased utilization.[32] For example, the availability of special obstetric services (ultrasound or fetal monitoring) may alter the prevalence of cesarean sections (Figure 3). The presence of an anesthesiologist only at certain hours might affect whether a procedure is performed or when it is performed.

One classic example of the so-called technologic imperative[33] relates to hospital beds per capita. It was common wisdom for health policy analysts to cite Roemer's Law, " a built bed is a filled bed."[34] However, recent events surrounding the federal enactment of Prospective Payment have cast doubt on this law since there has been both a decrease in length stay **and** in occupancy rates throughout the United States.

Malpractice Fears

Last but not least, a factor cited by physicians for such variations is the fear of malpractice. For example, the increase in caesarean section rate has been ascribed partially to the fear of litigation against physicians if the baby is not perfect. Caesarean section allows the labor to be terminated and the baby to be delivered more easily, but the risk to the mother may be somewhat greater. Although the sample size was small, a recent study demonstrated that the individual physician, rather than the malpractice experience, was the most important determinant of cesarean section rate.[26]

Conclusion

Small area variation analysis provides a means for understanding the reasons for interarea variations in the use of medical care. Assuming the aforementioned studies accurately reflect inappropriate practice by today's standards, it is not clear what level of perfection is attainable in an imperfect world. However, this is the challenge the profession must face. It is essential that clinicians get involved in analyzing their own practices in a proactive rather than reactive manner. This is being done by medical societies in other areas.[35,36] After the demonstration of the variation in rates for tonsillectomy and other procedures, the medical society in Maine disseminated the information and

worked with local physicians to alter the rates to reflect currently accepted modes of practice. Similar cooperative efforts led to moderation in utilization rates for hysterectomy in Ontario.[37]

In Maryland, the Small Area Practice Variations Committee has been involved in a number of studies. In one case, we helped construct an expert panel and provided some support, along with the Maryland Hospital Association, for a study of coronary artery bypass surgery at two Maryland hospitals. These data are being analyzed and shared with physicians at those hospitals. We also have been working with the Maryland Hospital Association, which convened a panel of obstetricians to develop guidelines to evaluate cesarean sections and to review the disparities in cesarean section rates.[38] The results of their analysis were discussed at our Committee meeting with representatives of the Maryland College of Obstetrics and Gynecology and referred to the Faculty's Subcommittee on Maternal Welfare for review and dissemination. Chiefs of Departments of Obstetrics at Maryland hospitals will be asked to develop a more standardized review of cesarean sections. Further work is planned in the analysis of carotid endarterectomy, laminectomy, and prostatectomy.

Such analyses are not only useful in forestalling premature regulations but also, and more importantly, in enabling a better understanding of health care delivery in order to improve it. Where overutilization or underutilization of appropriately defined services is identified, action can be taken to correct deficiencies. Because these variations may have important implications for quality of care, access, and cost, it is essential to develop a partnership among physicians, hospitals, payors, and the public to attain more cost-effective and efficient care. Our Committee and the *Maryland Medical Journal* will be directing increasing attention to these issues. We look forward to a healthy response and involvement from Med Chi's membership.

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Clinical Experience with Ketoprofen in the Management of Osteoarthritis and Rheumatoid Arthritis

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A retrospective review was conducted among 38 patients who were prescribed the nonsteroidal anti-inflammatory drug (NSAID) ketoprofen by a rheumatologist in private practice. Many of these patients were in advanced stages of disease and had been refractory to previous treatments. The percentages of patients with osteoarthritis (OA) and rheumatoid arthritis (RA) who improved on ketoprofen therapy were 87 percent and 73 percent, respectively. Adverse effects were generally mild and transient. Because of its overall effectiveness, relative safety, and patient acceptance, ketoprofen has proved to be a valuable addition to the array of anti-inflammatory medications.

Over 100 forms of musculoskeletal disorders affect approximately 50 million persons in this country. While the etiology and cure of many arthritis disease processes remain elusive, the number of drugs available to ease the pain and reduce the inflammation associated with arthritic diseases has increased, improving the outlook for patients.

History

When Dr. William Osler described rheumatic disease at the beginning of this century in *Principles and Practice of Medicine*,[1] four conditions were identified: arthritis deformans, chronic rheumatism, muscular rheumatism, and gout. Today we can distinguish over 100 forms of musculoskeletal disorders affecting approximately 50 million persons in the United States; they include the most recent additions, Lyme arthritis, eosinophilic fasciitis, and Kawasaki's disease. While our knowledge has expanded in the intervening years, the etiology and cure of many arthritis disease processes remain elusive. Nevertheless, the number of drugs available to ease the pain and reduce the inflammation associated with arthritic diseases has increased, improving the outlook for patients.

The development of nonsteroidal anti-inflammatory drugs (NSAIDs) has been of tremendous benefit in the alleviation of arthritic disease symptoms. More than a dozen NSAIDs are available for use in the United States, and they can be considered the cornerstone of today's pharmacological approach to treatment.

The chronic nature of arthritic diseases and the variable responses of patients to specific treatment regimens require flexible and individualized patient management. Although alternating

periods of exacerbation and remission of symptoms are a hallmark of rheumatic diseases, continuous therapy with NSAIDs is generally more efficacious than treatment solely when pain or inflammation are present; sudden cessation of therapy may cause a flare-up of disease activity.

The NSAID ketoprofen,* a propionic acid derivative that became available in the United States in 1986, has been beneficial for many patients with osteoarthritis (OA) or rheumatoid arthritis (RA). Prior to its introduction in this country, this potent and rapidly absorbed agent[2-4] had been used for over 13 years by physicians worldwide.[5-7] In a postmarketing study[8] of 1,307 patients previously taking leading NSAIDs, 50 percent of patients reported ketoprofen to be more efficacious than were their former medications; and in 85 percent of cases patient tolerance with ketoprofen was superior or equal to that of prior medication. Ketoprofen has an outstanding record of freedom from serious adverse reactions during short- and long-term administration.[5,6] Older patients, particularly, do well on treatment because ketoprofen has a short plasma half-life and is eliminated rapidly, hence preventing drug accumulation and reducing risk of serious side effects.

My experience with ketoprofen in patients with moderate to severe OA and RA follows. It is based on a review of office case records of patients referred for rheumatologic consultation who had experienced either unsatisfactory relief of arthritic symptoms or unacceptable adverse drug reactions from prior NSAID therapy.

Case Reports

Case records of 38 patients with OA or RA who were prescribed the nonsteroidal anti-inflammatory drug ketoprofen were reviewed. Almost all the patients had been referred by family physicians or internists. These patients, many of whom had concomitant diseases, represented more severe cases than those customarily treated in a primary care practice. Diagnosis was determined after a history of each patient was completed and a thorough physical examination performed; where necessary, laboratory tests were run and roentgenograms taken.

Drug therapy prescribed for a majority of patients prior to ketoprofen included naproxen 375 to 500 mg twice daily; discontinuation of this NSAID in selected patients became necessary because of lack of efficacy or adverse effects, particularly gastrointestinal. Another NSAID commonly administered was sulindac 150 to 200 mg twice daily, which also had to be discontinued in selected patients because of either lack of efficacy or adverse effects. Other drugs previously used in this group of patients included piroxicam, ibuprofen, indomethacin, tolmetin, meclofenamate, and phenylbutazone.

OA was the diagnosis in 23 of the 38 patients and RA in 15 patients. Demographic characteristics of each patient group are summarized in the Table. Females predominated in both groups. The mean age of the patients correlated with the average age of patients in the general population in whom symptomatic effects of RA occur as early as the second decade and OA more commonly in the fourth decade. Duration of disease ranged from 1.5 to 20 years, with a mean of 8 and 6 years in the OA and RA groups, respectively.

The knee was the focus of pain for 63 percent of patients with OA; other major areas of pain were the lumbar spine, hip, and shoulder. Primary areas of pain in patients with RA were the hand and wrist in 53 percent of patients and the knee in 40 percent. Other involved peripheral joints included the shoulder, elbow, spine, and foot. With few exceptions, the prescribed dosage of ketoprofen was 75 mg every eight hours, taken with food.

Results

Response of OA Patients Twenty-three patients received ketoprofen for treatment of moderate to severe OA. Eighty-seven percent of patients showed improvement in response to ketoprofen at their last visit; many had excellent results. Thirteen percent of patients failed to respond to ketoprofen. Maximum duration of treatment was nine months up to the time of this review.

The severity of specific arthritic symptoms was evaluated before and after administration of ketoprofen. A rating system was developed *post facto* on a scale of 0 to 4, indicating no pain to very severe pain. Ten patients were evaluated for joint pain at rest, and mean response to ketoprofen was good. Pain severity ratings decreased by 41 percent, from 2.7 to 1.6 (Figure). Nine patients were evaluated for joint pain on movement; their mean severity rating decreased by 34 percent, from 2.9 to 1.9 after ketoprofen.

Overall, patient tolerance of ketoprofen was very good. Eleven adverse effects were reported by nine patients; two patients (8 percent) discontinued therapy as a result of adverse effects. Patient 19, a 50-year-old man, discontinued treatment after five months due to stomach burning. He had experienced severe OA for approximately ten years. Patient 24, a 58-year-old

Table. Demographic Characteristics of 38 Arthritis Patients (OA and RA)

	Sex	Number	Age(yr.)		Duration of Disease(yr.)	
			Mean	Range	Mean	Range
Osteoarthritis (N=23)	M	4	63	50-74	8	5-12
	F	19	61	40-80	8	1.5-20
	Mean	-	61	40-80	8	1.5-20
Rheumatoid arthritis (N=15)	M	1	71	71	-	-
	F	14	48	27-72	6	1-18
	Mean	-	50	27-72	6	1-18

*Orudis,® Wyeth-Ayerst Laboratories

woman who had been intolerant of many antiarthritic medications, discontinued ketoprofen after approximately one month because of stomach ache and leg rash. Ketoprofen had been controlling her arthritis symptoms.

Response of RA Patients Fifteen patients, most with advanced forms of arthritis, received ketoprofen for treatment of RA. Seventy-three percent of patients improved in response to therapy. Maximum duration of treatment with ketoprofen was 15 months in patient 37 who had a good to excellent response.

Six adverse effects were reported by four patients, with discontinuation of therapy required in two patients (13 percent). Patient 32, a 64-year-old woman experiencing severe RA for one year and previously intolerant of other NSAIDs, discontinued ketoprofen after two months because of hematologic abnormalities thought to be possibly related to the NSAID. Patient 33, a 49-year-old woman, had experienced severe RA involving her knees, hands, and wrists for three years. After two weeks' use of ketoprofen, she developed gastrointestinal problems and had to stop the medication.

Two case histories illustrate typical OA and RA patients in my practice who received ketoprofen:

Case No. 14, a 76-year-old woman, has had OA for approximately 20 years, during which time numerous medications have been prescribed. She was referred to the office in 1984 complaining of multiple peripheral joint pains. She had low back pain radiating to the left buttock and thigh on straight leg raise. Initial physical examination revealed mild swelling of the right knee and pain on range of motion of the right shoulder. She was placed on salsalate 1250 mg twice a day. Her symptoms eased although she experienced abdominal discomfort and was slightly groggy from the medication. In March 1986, she was switched to ketoprofen 75 mg every eight hours. At that time swelling and joint pain at rest were moderate, and knee joint pain with range of motion was severe. By the next week her response to ketoprofen was judged to be good. Knee joint pain on motion was considered moderate. A month later symptoms were still well controlled, although she reported moderate dyspepsia, which improved with antacid administration. At her next scheduled evaluation three months later, joint pain on motion had further improved and was rated mild; response to ketoprofen was considered good to excellent. Her earlier difficulties with dyspepsia had resolved.

Case No. 24, a 47-year-old female, was initially evaluated in 1982. At that time, she had severe shoulder and right knee pain attributable to RA for which NSAIDs and disease modifying agents were prescribed. Her most recent medication prior to treatment with ketoprofen included prednisone, which helped to control her severe inflammation but produced limiting side effects. Diflunisal 1500 mg daily did not help. In 1986 she was prescribed ketoprofen 75 mg every eight hours. At initiation of treatment, she was experiencing severe joint pain at rest and on range of motion. Prednisone 5 mg daily was added for two weeks to help relieve acute symptoms. The pain at rest and on motion eased, although it was still severe when prednisone was subsequently tapered and discontinued. After three months of treatment with ketoprofen alone, she reported moderate joint redness and heat but not the severe joint pain experienced previously. After another six months, her overall response to treatment with ketoprofen was judged to be good.

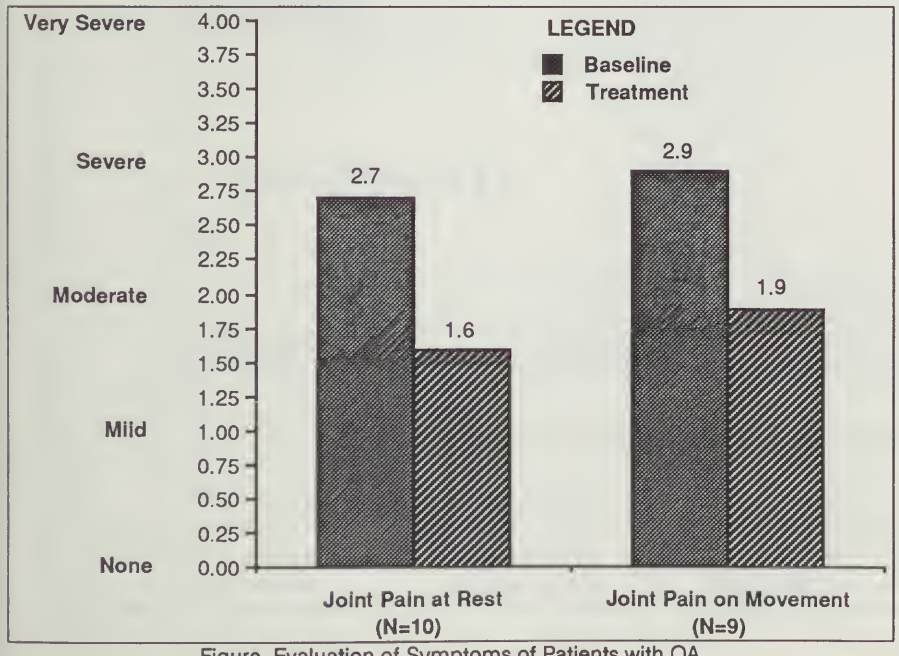


Figure. Evaluation of Symptoms of Patients with OA

Discussion

In this retrospective review of 38 patients with moderate to severe disease, 87 percent of patients with OA and 73 percent of patients with RA improved during ketoprofen therapy. Ketoprofen, a short-acting NSAID and a potent inhibitor of major mediators of inflammation, was effective in reducing inflammation manifested by heat, redness, and joint pain at rest and on motion in both groups of patients.

The multiple-dosing regimen of ketoprofen did not adversely affect patient compliance. In fact, findings of a study of arthritic patients conducted in 1985 indicated that 70 percent of patients preferred a multiple-dosing schedule because of their perception that such a schedule increased effectiveness.[9] Patients given ketoprofen 75 mg every eight hours also gain the flexibility of taking

an additional capsule for pain relief when necessary without exceeding the recommended daily dose of 300 mg.

With regard to adverse effects, few were severe enough to warrant discontinuation of treatment. The short plasma half-life of ketoprofen and its simple conjugative metabolic pathway may explain this.[7] Gastrointestinal adverse effects were the most common cause for discontinuation of therapy and were similar to the adverse effects occurring with other NSAIDs.

My experience with ketoprofen has shown it to be an effective nonsteroidal drug in patients with osteoarthritis and rheumatoid arthritis. It has been particularly effective in pain relief as well as having a low frequency of significant side effects. Its metabolic and kinetic characteristics make is especially well suited for elderly arthritic patients. Many patients who previously had unsatisfactory results with other NSAIDs and were switched to ketoprofen subsequently improved. Adverse side effects generally were not serious. Ketoprofen, with its documented record of efficacy and safety, provides physicians with an effective treatment regimen to relieve the pain and reduce the inflammation of OA and RA.

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Predictors of Rehabilitation Outcome among Patients with SCI

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Because rehabilitation medicine has undergone major changes with respect to patient management and case mix since 1980, it is important to determine whether the factors predictive of rehabilitation outcomes also have changed over time.

Injuries of the spinal cord affect an estimated 10,000 Americans each year, and a significant number of patients sustain disability.[1] After the acute hospital phase of care, patents with spinal cord injury (SCI) often are referred for rehabilitation. In recent years, this service has been centralized to concentrate care and improve services to SCI patients.[2]

Several recent studies examined predictors of rehabilitation outcome. Woolsey studied a veteran population and found that age, marital status, and level of injury were predictive of outcome.[3] In an earlier cohort, Yarkony *et al.* looked at 711 patients and found level and completeness of injury to be important predictors.[4] Rintala and Willems studied 39 patients in 1981 and found postdischarge outcomes affected by setting (urban vs. rural), race, speed of recovery, independence in the ward, and degree of injury.[5]

Rehabilitation medicine has undergone major changes with respect to patient management and case mix. In our recent study of SCI patients,[6] secular changes were found in educational and occupational status, length of stay, and number of medical complications. Therefore it is important to determine whether the factors predictive of rehabilitative outcomes have changed over time.

The present study examined the functional outcomes of spinal cord injured patients following inpatient rehabilitation.

Procedures

The records of all patients discharged from the Spinal Cord Injury Unit of Montebello Rehabilitation Hospital during calendar year 1986 were abstracted. This institution is a 153-bed comprehensive rehabilitation facility and a division of the University of Maryland Medical System. The 20-bed unit has been in operation since 1979.

The medical records of 135 SCI patients were abstracted. Those who had been treated previously in a rehabilitation center or who initially had been discharged prior to 1986 were excluded. Patients sustaining vertebral fractures without spinal cord deficits, those with significant head trauma, those whose spinal cord lesions had an insidious onset or relapsing course, or those treated in another unit of the hospital also were excluded. A total of 77 patients remained for study.

A modified Barthel's Index (BI) was constructed from the nursing, occupational, and physical therapy notes. This is based on the ability to perform 10 activities of daily living (ADLs) with a higher score indicating better functional ability.[7] Individual items were scored a value of 1 if independent, and 0 if help was needed. Two items (bathing and climbing stairs) with more than 20 percent missing values were excluded, resulting in a maximum score of 8. Scores were standardized by dividing the number of items a patient could performs independently by the number of non-missing items.

Four of the authors (Epstein, Sharkness, Struewing, and Lefkowitz) abstracted the patients' charts using a standard form. Information obtained included demographic data, cause of injury, level and degree of injury, functional ability on admission and discharge, medical complications, length of stay, and disposition on discharge. The injuries were classified according to the Standards for Neurological Classification from the American Spinal Injury Association.[8]

After abstraction, data were coded, edited, and validated. The PC version of the Statistical Analysis System (PC-SAS) was used for data analysis. Mean values were compared using the Student *t*-test, and differences between proportions were evaluated by the chi-square statistic.

To analyze functional changes during rehabilitation, the difference of standardized Barthel Index scores (discharge BI score - admission BI score) was divided by the admission score. This adjusts the discharge score by the admitting score.

To identify factors that have an effect on functional status at the time of discharge, a multiple linear regression was performed. The dependent variable was the BI score on discharge from rehabilitation while the independent variables were those known or suspected to have some bearing on function: age, race, sex, occupation, education, level and degree of injury, number of medical complications, admitting Barthel Index score, acute hospital length of stay, and rehabilitation hospital length of stay.

Results

The SCI patients had a mean age of 38 years and 80 percent were male. There were 43 blacks (55.8 percent) and 34 whites (44.2 percent), with approximately 53 percent living in Baltimore City. Two-thirds of them were single, 53 percent had completed high school, and 61 percent were employed at the time of injury. Their mean length of stay was 74 days, ranging from 1 to 265 days. The mean number of complications per patient was 1.8.

Approximately 75 percent of the study population had improved in function at the time of discharge. Of the remainder, 2 percent deteriorated during the rehabilitative course, while the others experienced no change in function. The two groups did not differ substantially in race, marital status, and education (Table 1). However, the patients who improved were more likely to be unemployed and an average of 10 years younger than those who did not improve. Male patients were more likely to be in the improved category than were females. Patients injured by violence were more likely to improve than were those injured in motor vehicles.

The medical characteristics of the patients who improved and those who did not are shown in Table 2. Although the differences generally were not statistically significant, relatively more lower cord lesions and paraplegia were seen in the improved group than in the unimproved group. There was no difference in the overall frequency of medical complications although decubiti were almost three times more common in the unimproved patients.

The results of the linear regression analysis of functional status at discharge are presented in Table 3. The significant predictors of better functional status at dis-

Table 1. Demographic Characteristics of SCI Patients by Functional Outcome, 1986

Characteristics	Not Improved	Improved	p- Value*
N=	57	20	
Mean Age	35	45	0.065
Range	19-79	20-80	
Sex			
Male	86%	65%	0.042
Female	14	35	
Race			
Black	56%	55%	0.930
White	44	45	
Marital Status			
Single	70%	71%	0.986
Married	30	29	
Occupation			
Employed	61%	63%	0.087
Unemployed	29	11	
Retired	7	21	
Homemaker	0	5	
Student	4	0	
Education			
<8 years	8%	11%	0.980
Elementary school	41	37	
High school	47	47	
College	4	5	
Cause of injury			
Motor vehicle	30%	45%	0.224
Violence	34	10	
Falls/jumps	20	30	
Sports & recreation	5	10	
Other	11	5	

*Two-tailed *t*-test for age; chi-squared tests for homogeneity for other variables.

charge were (1) admitting functional status, (2) male sex, and (3) lower level of injury. The variables not predictive of outcome included age, race, education, employment status, degree of injury, presence or numbers of complications, and length of stay in either the acute or the rehabilitation hospital.

Discussion

This study provides additional findings regarding functional outcomes following rehabilitation. It differs from most other studies in that this analysis controlled for the admitting functional status.

Seventy-five percent of the patients showed improvement in one or more measures of functional status during their rehabilitation course. Sixty-three percent of the patients with cervical lesions improved, while 80 percent of the thoracic and 82 percent of the lumbosacral patients showed improvement. These figures are higher than those reported elsewhere.[3,9,10] One possible explanation is that these differences are artifactual, that is, due more to the definition and measurement of function than to actual differences. Another possibility is that in general the rehabilitation of SCI patients improved since the earlier studies. Since patients are now admitted for rehabilitation after a shorter acute hospitalization, it is also possible that improvement in function has shifted to the rehabilitative phase.

We expected the unimproved patients to encounter a greater frequency of complications, but this did not occur. In fact, the improved and unimproved patients did not differ in the frequency of complications except for decubiti, which were three times more common among the improved group. Perhaps the shortened length of stay shifts the complications to the postdischarge period.

The Barthel Index score on admission, cord level, and male sex are predictive of patients likely to show the greatest functional improvement. Patients who are functionally more independent on admission are able to register greater gains than do those in poorer functional states. Patients with lower anatomic cord lesions showed better rehabilitative outcomes. However it is unclear why males recover more function than do females, adjusting for other differences. Our analysis lacks power, however, because of the paucity of females in the cohort (there were 15 females in the study). In any case, they were more likely than males to have cervical lesions (53 percent vs. 35 percent), and quadriplegia (46 percent vs. 35 percent).

Despite adjustment for these differences, it is possible there are other unmeasured differences that need to be accounted for. Although Montebello Rehabilitation Hospital accepts patients from the entire state of Maryland, it does not admit randomly from the entire region but rather from the metropolitan Baltimore area. Further studies are needed that include additional providers of care from the various catchment areas of the state. The number of patients studied is also relatively small. Finally, it is recognized that more information than can be ascertained from charts alone is required to fully explain differences between those who improve and those who did not.

This study does not address the impact of rehabilitation on functional outcome but attempts to classify those patients who achieved the greatest functional gains in a rehabilitative setting. We hope this type of analysis will permit rehabilitative specialists to better understand, discuss, and decide on the types of patients who could benefit most from rehabilitation. We also hope that new approaches may be developed to improve the status of target groups that show little improvement from traditional multidisciplinary rehabilitation efforts.

Acknowledgments

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Table 2. Medical Characteristics of SCI Patients by Functional Outcome, 1986

Characteristics	Improved	Not Improved	p-Value*
N=	57	20	
Cord level on discharge			
Cervical	33%	55%	0.228
Thoracic	42	30	
Lumbosacral	25	15	
Degree of injury			
Paraplegic	33%	20%	0.188
Quadraplegic	67	80	
Medical complications			
UTI	63%	60%	0.802
Decubitus	12	30	0.069
Anemia	81	65	0.153
Length of stay			
Rehab days	76	68	0.571
Range	1-265	9-223	

*Two-tailed *t*-test for age; chi-squared tests for homogeneity for other variables.

Table 3. Linear Regression Analysis of Barthel's Index, 1986

Independent Variable	B	Std Error of B	Significance[1]
Admitting BI score	0.50	0.19	*
Age	0.02	0.02	-
Race			
White	-0.40	0.68	-
Sex			
Male	1.49	0.75	*
Educational level	0.55	0.48	-
Employment status	0.53	0.80	-
Cord level	0.11	0.06	**
Degree of injury	-0.11	0.43	-
Number of complications in rehabilitation	-0.21	0.43	-
Acute hospital length of stay	-0.01	0.01	-
Rehabilitation length of stay	-0.01	0.01	-

1. R-square=0.52
* significant at the 0.05 level
** significant at the 0.10 level

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Dietary Fluoride Supplements: the Maryland Physician's Role

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Appropriate use of fluoride, either systemically or topically, remains the best defense against dental caries.

The appropriate use of fluoride remains the best defense against dental caries. This is true despite extensive efforts to develop improved methods of mechanical plaque removal, to develop chemical agents that safely and effectively reduce the cariogenic activity of bacteria, and to reduce the frequency of intake of cariogenic foods by modification of dietary practices.[1] Pit-and-fissure sealants are an important weapon in caries control,[2] but their full impact depends heavily on the ability of fluorides to control smooth surface caries. Although the mechanisms by which fluorides exert their caries-inhibiting effects are not fully understood, they are thought to include:

- Reduction of enamel solubility
- Remineralization of early carious lesions
- Action on plaque bacteria

Greater interest in and understanding of the remineralization process in recent years has led to such discoveries as the reversal of many early carious lesions with proper fluoride treatment.

Fluoride products are intended for use either systemically or topically. Systemic fluoride is ingested, absorbed, and incorporated into developing bone and tooth structure. In contrast, topical fluorides work only locally on plaque and the superficial layers of enamel. Methods of delivering systemic fluorides in the United States include community water fluoridation, school water fluoridation, and dietary fluoride supplements. Topical fluorides may be applied professionally or self-applied. They include fluoride solutions and gels (applied in trays or with a toothbrush or applicator), fluoride dentifrices, and fluoride mouthrinses. Topical benefits also result from drinking fluoridated water or from chewing fluoride tablets.

Discussions of fluoride delivery methods are contained in a special section in the September 1986 *Journal of the American*

DentalAssociation, "A Guide to the Use of Fluorides for the Prevention of Dental Caries,"[3] and in the American Dental Association's *Accepted Dental Therapeutics*.[4] A comprehensive fluoride program should include a systemic form and may include one or more topical forms. The systemic and topical modes should not be used in lieu of the other but should complement each other.

Several studies have found that the majority of dentists and physicians reported prescribing dietary fluoride supplements for some of their child patients.[5-9] However, other studies have shown that some practitioners are unaware of the proper supplement protocol (including water fluoride testing, when necessary), dosage guidelines, and the actual fluoride concentrations in the area's main water supplies.[5-11]

We will explain the need for dietary fluoride supplements in Maryland and review the proper protocol for their use; this should assist the practitioner in providing optimum preventive care to young patients.

Need for Systemic Supplements

Community water fluoridation is the most efficient and cost-effective method of providing systemic fluoride for the prevention of dental caries.[12] Unfortunately, almost half the population of the United States drinks water that is not optimally fluoridated.[13] In Maryland, approximately 96 percent of the population served by community water systems is receiving fluoridated water.

Alternative sources of systemic fluoride are necessary if more children are to be provided the caries preventive benefits of systemic fluoride. School water fluoridation is one alternative, but it is not presently being used in Maryland.

Generally, the water from school fluoridators contains 4.5 times the optimal level of fluoride for community water fluoridation in that particular geographic area to approximate the fluoride intake that would take place if the children were drinking water fluoridated at the average optimal 1.0 ppm all day, every day. The students drink the school water only for a few hours on school days (approximately 180 days per year). Children who drink school water fluoridated at 4.5 times optimal will experience substantial caries reductions of up to 40 percent. The benefits are particularly great in the late-forming teeth, which receive both systemic and topical exposure.[14]

Children who drink water from an optimally fluoridated community system or a school fluoridation system should not receive systemic fluoride supplements. Specific information about the concentration of fluoride in your community's water supply may be obtained from your local water company, health department, or dental public health personnel. Dr. Michael Easley, Chief of the Division of Dental Health, Maryland Department of Health and Mental Hygiene, also can provide lists of communities in Maryland that are optimally fluoridated.

Fluoride Supplements

For children who do not receive fluoridated water, the use of dietary fluoride supplements (tablets or drops) is a safe and effective means of reducing the incidence of dental caries by up to 60 percent or more [15-22] and has been recommended for use in private practices.[23] To receive maximum preventive benefits, the supplements must be taken daily from birth until at least age 13,[4] although taking them until age 16 is better.

Supplement Protocol

It is important that children receive the appropriate dose of systemic fluoride. This can be accomplished only if the practitioner knows the fluoride concentration of the patient's main source of drinking water. (Occasionally, more than one important patient water source must be considered and the average fluoride level determined.) Fluoride levels exceeding the optimal are associated with an increased risk of dental fluorosis (mottling).[24] Although fluorosis is primarily a cosmetic problem, severe cases can involve pitting of the tooth surface. To avoid exceeding the recommended dose, the practitioner should know which communities in the area are fluoridated as well as the concentration of fluoride.

A separate water sample should be submitted to determine the fluoride content of a patient's community, school, or individual water supply if the practitioner does not have prior specific knowledge of the level. Because there can be significant variations in water fluoride content from nearby wells, even in a small geographic area, one should not rely on the results of a sample from a different source, no matter how near.

Water Sampling Procedures

In Maryland fluoride assay services are available but must be accessed through individual local health departments. For further information please direct your inquiries to:

Michael W. Easley DDS, MPH
Chief, Division of Dental Health
Maryland Department of Health and Mental Hygiene
201 West Preston St., Room 321
Baltimore, MD 21201
(301-225-6789)

Dosage Schedule

The present guidelines for systemic fluoride supplements recommended by the American Dental Association, the American Academy of Pediatric Dentistry, and the American Academy of Pediatrics are shown in the Table.[4,25-27] Any water fluoride level greater than 0.3 ppm requires adjustment from the full dosage supplement.

Determining Appropriate Dosage

After determining the fluoride level of a patient's main source of drinking water (either by submitting samples or obtaining information from water companies, schools, Maryland Department of Health and Mental Hygiene, etc.), the practitioner must determine the appropriate supplement dosage (if any) to prescribe. For example, a four-year-old with a water fluoride level of 0.5 ppm would receive a 0.5 mg supplement instead of the full supplement dosage of 1.0 mg appropriate were the water fluoride level to be 0.2 ppm.

The practitioner must determine whether an infant is being exclusively breast-fed, bottle-fed, or obtaining nutrition from both sources. Totally breast-fed babies should be supplemented fully, since very low amounts of fluoride are found in human milk, even when the mother resides in a fluoridated area.[28] The major manufacturers of milk-based infant formulas have removed fluoride from their products, which previously contained variable levels.[29] An infant on milk-based formula now receives fluoride almost exclusively from the water that may be mixed with the formula.[29] The practitioner must determine the proportion of bottle-feeding and reduce the supplement accordingly for those infants receiving nutrition from both sources.

Since excessive fluoride can cause fluorosis, parents should contact the provider of the supplement (physician or dentist) when changes occur in the infant's consumption of liquids so the fluoride supplementation can be adjusted. Significant changes in feeding patterns (such as from breast-feeding to bottle-feeding or breast-feeding to solid foods) must be reported to the provider so that the dosage of fluoride supplements can be adjusted, if necessary.

Although children should see the dentist at a young age, most children do not see a dentist before age 3. Therefore, the complexities of controlling fluoride dosage for infants and younger children must be the joint responsibility of dentists and physicians. Both should provide guidance in regulating supplement dosage. Also, it is important to remind the physician that dosage typically must be adjusted at ages 2 and 3.

Determination of water fluoride levels and systemic fluoride needs may be best accomplished as routine parts of new and recall patient examination procedures for pregnant women and children under age 16. Delegation to dental hygienists of some of these responsibilities has been suggested in order to facilitate the process.[9]

Fluoride tablets are available in 0.25, 0.5 and 1.0 mg fluoride formulations. There are several commercial brands available.[3] (See also List of Accepted Products-Fluoride Supplements in the February 1988 issue of *Journal of the American Dental Association*.) Additionally, many pharmacies can provide a generic product. The tablet should be chewed before swallowing to provide topical benefit. Fluoride drops, often providing 0.125 mg or 0.25 mg of fluoride per drop, should be used for those who cannot chew a tablet. No more than 264 mg sodium fluoride (or 120 mg fluoride) should be prescribed at one time for safety reasons.[4] The product should be kept in a childproof container in a secure place. Sample prescriptions are shown below for 0.5 mg fluoride dosage tablets and 0.25 mg fluoride dosage drops.

The greatest difficulty with fluoride supplements is patient compliance.[18-21,30] Numerous studies have documented the effectiveness of fluoride supplements in reducing dental caries, but the supplementation schedule must be followed conscientiously. These studies have shown that the greatest caries reductions have occurred as a result of select populations seeking pediatric dental or medical care on a regular basis; the reduction also is a result of follow-ups from dedicated and enthusiastic dentists and physicians who were able

Table. Supplemental Fluoride Dosage Schedule* (in mg of Fluoride Per Day)

	Parts per Million Fluoride in Water Supply		
Age of Child	<0.3	0.3 to 0.7	0.7
Birth to 2 yrs+	0.25	0	0
2 to 3 yrs	0.50	0.25	0
3 to 13 yrs+	1.00	0.50	0

*Recommended by the Council on Dental Therapeutics of the American Dental Association, by the Committee on Nutrition of the American Academy of Pediatrics, and by the American Academy of Pediatric Dentistry.

+The American Academy of Pediatrics recommends providing supplements from 2 weeks through at least age 16.

Sample Prescriptions

Rx Sodium Fluoride Drops
0.25 mg F/drop
Dispense: 24 ml
Sig: Place one drop daily inside mouth or add to water, formula, or foods.
Caution: Keep out of reach of children

NOTE: This is a generic prescription for fluoride drops to be used when 0.25 mg fluoride is needed, that is, from birth to 2 years with drinking water containing less than 0.3 ppm fluoride.

Rx Sodium Fluoride Tablets
1.1 mg (0.5 mg F)
Dispense: 120 tabs
Sig: Chew one tablet daily before bedtime, swish for 60 seconds, and swallow.
Caution: Keep out of reach of children

NOTE: This is a generic prescription for fluoride tablets to be used when 0.5 mg fluoride is needed, that is, for a 2-year-old with drinking water containing less than 0.3 ppm fluoride or a child aged 3 to 13 with water fluoride content between 0.3 and 0.7 ppm.

to motivate the patients to comply with the dosage regimen. Therefore, physicians and dentists must routinely encourage and attempt to monitor the child's supplement use.

Conclusion

We hope this article will encourage and assist physicians and dentists in Maryland in providing appropriate doses of systemic fluoride supplements to those children in need. The dental profession must work closely with physicians and other health professionals if systemic fluorides are to be used to greatest benefit by our population.

Summary

1. All children should receive one form of systemic fluoride and appropriate forms of topical fluoride.
2. If a child is not receiving optimally fluoridated water, the dentist or physician should prescribe dietary fluoride supplements (tablets or drops).
3. The correct dosage must be determined based on patient age and fluoride content of the patient's main water source(s).
4. Special attention is necessary concerning fluoride intake for children breast-feeding or consuming infant formula.
5. To arrive at the correct fluoride dose, these steps should be followed:

A. Always have a sample of the main drinking water source (usually home water) analyzed for the fluoride content before prescribing a fluoride supplement, if you do not have other **specific** knowledge of water fluoride content. Dr. Easley, Chief of the Division of Dental Health, Maryland Department of Health and Mental Hygiene can provide health professionals information regarding fluoride assay services available.

B. When the fluoride content of the water has been determined, the fluoride level and the child's age should be matched on the Table to arrive at the correct supplement dose.

6. Dr. Easley, Chief of the Division of Dental Health, Maryland Department of Health and Mental Hygiene, can provide lists of optimally fluoridated communities and schools in Maryland.

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State of Maryland
Department of Health and Mental Hygiene
In the Matter of
Richard P. Buyalos MD
Before the
Board of Review

Order

On consideration of the arguments to the Board of Review at a hearing held on September 15, 1988, and the entire record of the case, it is this 3rd day of October 1988

ORDERED, that the decision of the Board of Medical Examiners of the Department of Health and Mental Hygiene is AFFIRMED and the Findings of Fact and Conclusions of Law of the Board of Medical Examiners are hereby adopted by the Board.

MILDRED TYSSOWSKI, Chairman

Richard P. Buyalos MD
Plaintiff/Appellant
v.
Board of Review of the
Department of Health and Mental Hygiene,
State of Maryland
Board of Medical Examiners
(now known as the State Board of Physicians Quality Assurance)
Of the Department of Health and Mental Hygiene,
State of Maryland
Defendants/Appellees
In the Circuit Court for Anne Arundel County

Order

For the reasons given in its oral opinion, given this date in open court, it is this 19th day of December 1988

ORDERED, that the decision of the Board of Review of the Department of Health and Mental Hygiene and the State Board of Physicians Quality Assurance is affirmed. Costs to be paid by the Appellant.

ROBERT H. HELLER, JR., Judge

In the Matter of
Richard P. Buyalos MD
Before the
Maryland State Board of
Medical Examiners

Findings of Facts
Conclusions of Law, and Order

Background

By letter dated October 20, 1986 the Maryland State Board of Medical Examiners ("the Board") initially denied Respondent's application for renewal of his license based on Sections 14-205 and 14-504 of the Health Occupations Article, *Annotated Code of Maryland* ("the Act"). Subsequently the Board by letter dated May 12, 1987 reaffirmed its denial of Respondent's application for renewal but amended the grounds for denial. The Board based its denial on Section 14-305 of the Health Occupations Article, Annotated Code of Maryland under which the Board may deny renewal of a license to an application for lack of good moral character.

By letter dated May 28, 1987 the Respondent was advised that the Board had voted to sustain its previous action to deny Respondent's application for renewal of his license to practice medicine in Maryland based on the lack of good moral character pursuant to Health Occupations Article, Section 14-305 following an informal meeting with Respondent on May 21, 1987.

A hearing on the denial of Respondent's application for renewal of his license to practice medicine took place before the Board on December 17, 1987.

Findings of Fact

Based on the information known and available to it, the Board finds that:

1. Prior to September 1986 Respondent was licensed to practice medicine in Maryland.

2. Respondent's license to practice medicine would have expired on or about October 31, 1986. On or about September 23, 1986, Respondent applied for renewal of his license to practice medicine in Maryland.

3. On the renewal application Respondent replied in the negative in response to the question: since your last registration, have you had any restrictions of hospital privileges based on disciplinary action despite the fact that Respondent's privileges at Maryland General Hospital were suspended in April 1986. Furthermore, by letter dated June 25, 1986 Respondent was advised that the Board of Directors of Maryland General Hospital had affirmed the Hospital's decision not to reappoint Respondent to the medical staff at Maryland General Hospital.

4. The Board finds that Respondent lied on his September 1986 application for renewal to practice medicine in Maryland.

5. Respondent alleges that subsequent to filing his renewal application with the Board, he forwarded an addendum license application on or about October 10, 1986 in which he admitted that he had lost privileges at Maryland General Hospital.

6. Nevertheless, the Board finds that on his renewal application Respondent failed to answer Question 5 truthfully and acknowledge that his privileges as a staff physician had been terminated.

7. The Board finds that the rationale provided by Respondent in his October 10, 1986 letter not credible.

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Conclusions of Law

Based on the foregoing Findings of Fact, the Board concludes as a matter of law that Respondent, Richard P. Buyalos MD, lacks good moral character as required by Health Occupations, Section 14-305 Article of the *Annotated Code of Maryland* and DENIES Respondent's application for renewal of his license to practice medicine in Maryland.

Order

Upon the foregoing Findings of Fact and Conclusions of Law it is this 3rd day of March 1988 by a majority vote of the members of the Board considering this case:

ORDERED that Respondent's application for renewal of his license to practice medicine in Maryland is hereby DENIED.

ARTHUR T. KEEFE, JR., MD, Secretary
Board of Medical Examiners ■

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Commentary

PRO Denials - Another Dilemma for American Medicine

During the past year, doctors have encountered an increasing number of hospital payment disallowances by the PRO acting for Medicare. In its desperate attempt to limit Medicare costs, HCFA has mandated PRO action to limit Medicare payments by denying payment for medically unnecessary medical services. Almost all doctors who treat hospitalized patients can give many egregious examples of such denials, many of which directly impact on the quality of medical care, as well as cases involving the intimidation of doctors by perceived threat of denial.

About a year ago, the PRO disallowed the entire hospitalization for a patient of mine. An elderly widow in her 80s, living alone, she was admitted to the hospital by ambulance because of severe pain in her right hip and inability to sit, stand, or walk. In the Emergency Room, x-rays of the hip were negative and because of the probability that her pain was due to radiculopathy, the Emergency Physician requested that I admit her to my service, to which I agreed. She had no neurological deficit and was treated with bed rest, physical therapy, and appropriate analgesic medication. She recovered well and was able to walk out of the hospital in about a week. Months later, Medicare payment was denied to the hospital because of the lack of acute care services. If I had done a myelogram, and certainly if I had operated on her, the hospitalization presumably would have been allowed, but since she recovered with only simple measures, her hospitalization does not satisfy Medicare criteria for payment. The PRO position was that this hospitalization was more for social problem than for medical treatment, and that the patient could have been managed by care at home instead of the hospital. The fact there was no care available to her at home did not impress the PRO sufficiently to pay her hospital bill.

Does this mean that the next time I see a similar patient I should have her carried into a cab and transported home with prescription for pain medicine and instructions for complete bed rest? Or does it mean that the next time I see a similar patient I should proceed promptly with myelography and surgery to insure hospital payment?

Recently I had contact with another troublesome example of patient management: a case where the doctor was intimidated into providing less than optimal care because of the threat of payment disallowance. The patient was a 75-year-old lady who had received a diagnosis of inoperable malignancy made about a year prior. She was treated appropriately and successfully, and she handled the diagnosis and prognosis quite well. She remained optimistic with great trust and affection for her doctor. She then developed ascites. By the time she saw her doctor, about two weeks after onset, her abdomen was markedly protuberant, and she had moderate abdominal discomfort. Instead of prompt hospitalization for studies and paracentesis, she was treated as an outpatient. During the ensuing 10 days or so, while she was receiving various x-ray studies and scans, her condition rapidly degenerated. Her abdomen became grotesquely protuberant, and she developed severe nausea and total anorexia. She had to go back and forth for various diagnostic studies, wearing only a bathrobe covering her protuberant abdomen, since she had no clothes that would fit. Her family tried to buy her new clothes, but could find nothing to fit her except a maternity dress this for a woman who had always been extremely fastidious in dress and appearance and who had never been pregnant. By the time the studies were completed, her morale was shattered and her confidence in her medical care erased. When the paracentesis was finally done, also on an outpatient basis, it was thought safe to remove not more than 2 liters of fluid, which hardly reduced her abdominal distention significantly.

Unquestionably the care provided on an outpatient basis was medically adequate, but much suffering and loss of dignity and hope could have been avoided by prompt management in the hospital setting.

For years, doctors have been exhorted to treat the whole person not simply the disease. The proper philosophy of modern medical care is not merely technical aspects but also the humanistic foundation underlying the technical component. Payment now is being limited to the technical component only.

The PRO, and the federal government for which they act, must recognize that doctors do not treat disease, they treat patients. Doctors cannot and will not be intimidated into providing less care than the patient needs and should have. We must continue to do what is best for the patient, not just what the government will pay for. The PRO must acknowledge its commitment to quality of care as well as to cost problems.

The best solution to this problem would be for the federal government to acknowledge that no one is in a better position to determine what is medically necessary than the treating doctor. Undoubtedly, there will be some small percentage of unnecessary utilization, but this is not an excessive price to pay for maximizing quality of care. If the federal government believes it is absolutely imperative to monitor utilization, it should be done in a real time frame, not retrospectively. The process of retrospective review and disallowance should be replaced by a program of concurrent monitoring and pre-admission authorization, so that the patient at least will have the choice of paying for medically recommended services that the PRO might feel are not medically necessary. This process also

would increase the PRO accountability to the citizen, which the present system neatly bypasses.

In addition, we must feel a little sympathy for the PRO physicians, who must be getting increasingly frustrated by their inability to achieve manifestly impossibly goals and to function in a system whose primary purpose is on the one hand to insure quality medical care and on the other hand to limit physicians' ability to provide quality care.

ISRAEL H. WEINER MD
Lutherville

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PRO Update

The Medical and Chirurgical Faculty Peer Review Organization (PRO) Monitoring Committee reviews the activities of the federally designated Peer Review Organization and is a liaison between the PRO and Med Chi. The current PRO is the Delmarva Foundation for Medical Care, Inc. (DFMC). Many physicians have expressed concerns regarding PRO actions and communication problems.
To help Maryland physicians better understand the federally regulated PRO requirements and how the review-denial-appeals process works, the Maryland Medical Journal
in cooperation with Delmarva will publish several articles in an attempt to define and clarify these issues, often by using case examples to illustrate general topics.
Data collected by DFMC of interest to Maryland physicians will be presented as well as comments from physicians regarding the impact of these regulations on the quality of care delivered to patients.

JOHN A. SINGER MD, Chairman
Medical and Chirurgical Faculty
Peer Review Organization Monitoring Committee

■ ■ ■

Background of the PRO Program

In 1982 the Utilization and Quality Control Peer Review Organization (PRO) program was created by Congress by the Peer Review Improvement Act to succeed PSROs (Professional Standards Review Organizations) in providing Medicare peer review. The PSRO program had been established by Congress in 1972 to ensure that health care services provided under the Medicare, the Medicaid, and the Maternal and Child Health and Crippled Children's programs were medically necessary, conformed to appropriate professional standards, and were delivered in the most efficient and economical manner possible. The PSRO program was a response to increasing Medicare and Medicaid costs and to the failure of existing utilization and claims review mechanisms to deal with widespread inappropriate use of health care services.

The congressional rationale for replacing the PSRO program with the PRO concept in 1982 was based on the perception that the PSRO program had been subject to overregulation and too detailed specification in laws that restricted new approaches to the review process.

The PRO legislation emphasized greater accountability by requiring PROs to have performance-based contracts with measurable objectives. It also addressed concerns about quality: whether the potential negative incentives of the prospective payment system (PPS) might lead to an increase in hospitalizations and a reduction in the quality of care provided to Medicare beneficiaries. (Compared with former cost-reimbursement systems, PPS gave hospitals much stronger incentives to increase Medicare payments by increasing their number of admissions and to reduce costs by limiting services or discharging patients earlier.)* The PROs were charged with monitoring the system to protect against potential provider abuses such as unnecessary admissions, substandard care, and premature discharges.

Physician Involvement

In authorizing the Secretary of the Department of Health and Human Services to enter into contracts with PROs, Congress specified that such organizations must be composed of or have available to them a substantial number of licensed physicians who are practicing in the area.

An Evolving Process

The first Scope of Work, which described the review responsibilities for PROs from 1984 to 1986, was centered on concerns that the newly implemented PPS would encourage inappropriate utilization and underprovision of services. (Although Maryland is waived from the PPS, its Scope of Work closely reflects that of the other states.)

There was a significant shift from utilization and payment concerns to quality review in the second PRO contract period. The Health Care Financing Administration (HCFA) developed generic screens to be applied to the sample of cases reviewed; the goal was to identify adverse patient outcomes that may have been indicators of substandard care. Then, as now, every case in the selected sample underwent discharge review to screen for possible premature discharge. All readmissions occurring within 15 days of discharge were also subject to review. A Beneficiary Outreach Program was a required part of the second contract. Each PRO had to develop ways in which the Medicare beneficiaries could be informed about items such as PRO review and the beneficiaries' right to appeal a denial decision.

Several new responsibilities were added after the second contract was awarded in the fall of 1986, includ-

*In Maryland the PPS is not being used. This is the only state that has maintained a waiver, largely through the efforts of its Health Services Cost Review Commission (HSCRC), established in 1974. The Commission establishes all allowable hospital rates by application of its uniform accounting system and by routine auditing of hospital costs; to date it has demonstrated that rates can be contained by this means. Although PRO responsibilities in Maryland are similar to those in other states, some modifications have been made in light of our waiver status.

ing a review of the necessity of assistant surgeons at cataract surgery, review of freestanding cardiac catheterization facilities, investigating beneficiary complaints, and reviewing care provided to HMO risk enrollees. In addition, time frames for the attending physician to discuss a case or supply additional information were extended by Congress to 20 calendar days.

In April 1989 the PRO was required to start implementing the third change in the Scope of PRO monitoring of Medicare services in Maryland. The newest Scope of Work (1989-92) continues the emphasis on quality, expands PRO responsibility to review care outside the hospital setting, and requires a significant increase in the amount of profiles and statistical information generated by the PRO.

Systematic review of ambulatory surgery for Medicare beneficiaries, done in either hospital outpatient departments or ambulatory surgery centers, is included in the Third Scope of Work. Review of intervening care [provided by skilled nursing facilities (SNFs), outpatient departments (OPDs), or Home Health Agencies (HHAs)] also has been added.

Review in these new areas is done to identify problems in the quality of care provided. The original set of generic screens used to review inpatient care is being supplemented by generic screens for SNFs, OPDs, and HHAs.

In addition to the responsibilitites of the Outreach program, each PRO must also have an Interaction Plan that provides educational activities for physicians and hospital administrative staff.

A Continuing Dilemma

Federal responsibilities have not and do not provide for all aspects of health care for the elderly. For instance, the responsibilities for nursing home care and home health care have never been fully assumed by the federal government; often state and local governments have not assumed these responsibilities. Therefore, a continuing frustration for everyone is the mandated denial of payment for services where it is obvious that the service is needed, but neither the federal government nor the community is willing or able to provide it.

Delmarva Foundation

The Delmarva Foundation for Medical Care, Inc. (DFMC) is a private, nonprofit organization incorporated in 1973 and governed by a 13-member Board of Trustees (11 physicians and 2 consumer representatives).

When the federal government began the campaign to institute external physician review organizations nationwide and requirements for Professional Standards Review Organizations (PSROs) were included in the Social Security Amendments of 1972, the Maryland Eastern Shore was designated a PSRO area. The Foundation was among those included in the first wave of federal planning grants for PSROs in 1974. DFMC remained a viable PSRO through 1984 despite several budget cuts and program changes.

In 1982, the DFMC became the first such group to organize a multi-PSRO state into a statewide joint venture. To carry out the Maryland Medical Assistance Contract, the DFMC brought together diverse review groups combined with direct performance in some areas and management assistance in others, to produce a uniform system for reviewing Medical Assistance hospital and nursing home stays in the entire state of Maryland. In 1984, the DFMC was awarded the statewide contract for review of Medical Assistance patients as the sole contractor and has since continued to maintain the role of Utilization Control Agent for the state Medicaid program. The contract was again awarded to DFMC for a three-year period from July 1987 through June 1990.

With the Peer Review Improvement Act of 1982 and the Medicare Prospective Payment System Amendments of 1983, DFMC joined the ranks of past PSROs who bid for federal contracts as Utilization and Quality Control Peer Review Organizations (PROs). In 1984, the DFMC obtained the PRO contract for the District of Columbia. In 1986, the DFMC was named the PRO for both the District of Columbia and Maryland. The PRO contract to perform the Third Scope of Work has recently been awarded for a three-year period 1989 - 1992.

As the Maryland PRO, one of the initial steps taken was to establish a Criteria Review Panel comprised of physicians representing relevant specialties and geographical locations statewide, and serving the DFMC in an advisory capacity to the Board of Trustees. The main responsibilities of the Panel include making recommendations for review criteria, review procedures, and administrative policies.

A Statewide Quality Panel, composed of board-certified specialists, has been added under the newly awarded contract. The panel membership changes on a monthly basis with the specialties represented reflecting the types of specific physicians and providers to be reviewed. The Quality Panel's major responsibility is to review information about specific physicians and providers with identified patterns of quality problems. In such cases, the Panel has the responsibility to recommend educational interventions.

NEXT IN PRO UPDATE . . .

- **Case Example of a Utilization Review**
- **Data on Continued Stay Denials**

PRO Update is contributed by the Publications Committee of the Delmarva Foundation for Medical Care, Inc. (Donald Harting MD, MPH, Chairman; Cynthia Heller MA; Carol Lewis MPH, ScD; Jan Melhunek MHS) in cooperation with the Med Chi Peer Review Organization (PRO) Monitoring Committee, John Singer MD, Chairman.

University of Maryland School of Medicine

CME Courses: *For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.*

June 1-4 **Second Annual Trauma Anesthesia and Critical Care Symposium**, sponsored by the Maryland Institute for Emergency Medical Services Systems. Info: MIEMSS, Dept of International Development, 11 South Paca St. - Ste 303, Baltimore, MD 21201 (301-328-2399).

June 14-17 **Dermatology Days**, Sheraton Fontainebleau Inn, Ocean City. Fee: $250; 12 AMA Cat I credits.

June 18-23 **Fifteenth Annual Family Medicine Review Course**, Sheraton Fontainebleau, Ocean City. Fee: $395; 25 AMA Cat I and AAPP credits.

June 24 **Cardiac Diagnosis 1989: From Stethoscope to Scan**, UMAB. Fee: $75; 5 AMA Cat I credits.

June 29-30 **Eighth Annual Update in Obstetrics and Gynecology**, Maryland State House, Senate Hearing Room & Historic Inns of Annapolis. Fee: $175; 14 AMA Cat I credits and 14 ACOG credits.

Sept 15 **Current Concepts in Ophthalmology: Ninth Annual Clinical Conference**, Hyatt Regency Baltimore. Fee: $60; 6 AMA Cat I credits.

Sep 19-20 **Behavioral Pediatrics Conference**, UMAB MSSTF Auditorium. Fee and credits TBA.

Sep 21-23 **Fifth Annual University of Maryland Contact Lens Symposium**, Sheraton Inner Harbor Hotel, Baltimore. Fee: $160; 12 AMA Cat I credits.

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Jun 15-16 - Provider	Sep 13-15 - Instructor	Dec 14-15 - Provider
Jul 13-14 - Provider	Oct 19-20 - Provider	
Aug 17-18 - Provider	Nov 16-17 - Provider	

Miscellaneous Meetings

Jun 5-9 **EVMS Family Medicine Review Course - Fifth Edition**, Sheraton Beach Inn, Virginia Beach, VA. Info: 804-446-6140.

Sep 8-9 **Current Controversies and Techniques in Congenital Heart Surgery**, sponsored by the Section of Thoracic and Cardiovascular Surgery of the University of Nebraska College of Medicine, Omaha. Precedes the Society of Thoracic Surgeons Annual Meeting in Baltimore. Info: T. Young 301-328-2399.

The Johns Hopkins Medical Institutions

Johns Hopkins Centennial: from June 7-10 Baltimore will come alive with a panoply of academic, social, and cultural events. Academic highlights are:

June 7	*Opening ceremonies, 9:30 a.m. Baltimore Convention Center. First of a series of scientific symposia will begin at 2 p.m. All symposia are open to the public; registration is required.*
June 8	*Concurrent scientific symposia start at 8:30 a.m. with presentations on Women and Medicine; Information and Communication in Health Care; Education and Research; and Genes and Medicine. Symposia resume at 2 p.m. with lectures on The Heart; Diagnosis and Treatment of the Unborn; Diagnostic Imaging; and Health in the Year 2000.*
June 9	*Symposia featuring the Nursing Professions: Limited Resources, Multiple Needs; Public Health: An Ounce of Prevention. Lectures resume at 2 p.m. with Mind Brain Science and AIDS; a half-day symposium on Medicine, The Humanities, and the Arts.*
June 10	*Departmental open houses and reunion programs for Hopkins medical, public health, and nursing alumni.*

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

June 5-6 **Frontiers in Disease Prevention: A Conference on the Impact of the US Preventive Services Task Force Guidelines**. Fee: $225 health professionals, $75 residents and students; 14.75 AMA Cat I credits. Info: 301-955-2959.

June 5-16 **Second Summer Institute in Environmental Health Studies**, sponsored by the Department of Environmental Health Sciences and the School of Hygiene and Public Health. Courses: Principles of Toxicology, Risk Communication of Environmental Hazards, Fundamentals of Occupational Medicine, Contemporary Problems in Radiation Health Sciences, Introduction to Risk Assessment and Risk Management, A Computer Model of the Cardiovascular and Pulmonary Systems Capability to Handle Toxic Problems of the Environment and/or Disease. Info: J. Corn 301-955-2609.

June 11-15 **VII ISIAN: International Symposium on Infection and Allergy of the Nose - Interational Rhinology Conference**, Stouffer Harborplace Hotel, Baltimore. Fee: $475 physicians, $350 residents & fellows; AMA Cat I credit will be available. Info: Congress Secretariat 301-955-2959.

June 14-17 **Baltimore Perinatal Colloquium**. Fee: physicians $375, residents $200; 23.5 AMA Cat I credits, ACOG cognates available. Info: J. Ryan 301-955-2959.

June 19 **Principal Aspects of Ambulatory Electrocardiographic Monitoring for Myocardial Ischemia**. Fee: TBA; 7 AMA Cat I credits. Info: 301-955-2959.

June 30 **The Retinal Vascular Center 19th Anniversary Meeting Macula**, The Wilmer Ophthalmological Institute. Fee: $200, $100 (those in training); 8 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

July 17-21 **Control of Biohazards in the Research Laboratory**. Info: B.S. Tepper 301-955-5918 or J. Corn 301-955-2609.

Sept 11-13 **1989 Interventional Neuroradiology**. Fee: $550 physicians, $350 residents, fellows (with verifying letter), and technicians; 26.5 AMA Cat I credits. Info: F. Boling 301-955-2959.

Oct 11-12 **Vernon B. Mountcastle Symposium - Neuroscience: Integrative Functions**. Fee: $50; 12 AMA Cat I credits. Info: 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

DOCS TAKE NOTE DOCS TAKE NOTE DOCS TAKE NOTE DOCS TAKE NOTE

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA CAt I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169. ■

MEMBERS IN THE NEWS MEMBERS IN THE NEWS MEMBERS IN THE NEWS

Rose Mary Hatem Bonsack MD, Aberdeen, recently was appointed Secretary to the Board of Physicians Quality Assurance. A cum laude chemistry graduate of Washington College in Chestertown, Dr. Bonsack received her MD from the Medical College of Pennsylvania and served a rotating internship in the Easton Hospital, Easton, PA.

Dr. Bonsack also was recently appointed to the Chapter Affairs Committee of the American Academy of Family Physicians (1989). Other members of the Maryland Academy of Family Physicians appointed to committees of the American Academy of Family Physicians are *Dean H. Griffin MD*, Westminster, Scientific Program Committee (1989-1991); *C. Earl Hill MD*, Pasadena, Commission on Public Health and Scientific Affairs (1989-1991); *M. Dudley Phillips MD*, Darlington, Public Relations and Marketing Committee (1989); and *Leonard Raucher MD*, Baltimore, Commission of Legislation and Governmental Affairs (1989).

• • •

Immediate past-president of the Prince George's County Medical Society, *Bahram Erfan MD*, was appointed to head the Washington DC Metropolitan Area Medical Council for 1989. The Council is composed of representatives from each of the Metropolitan Area County Medical Societies, including the District of Columbia, and serves as a forum to deal with problems and issues concerning the provision of quality health care to the area's population.

Dr. Erfan invites members of the Society of submit issues that may be presented to the Council for consideration.

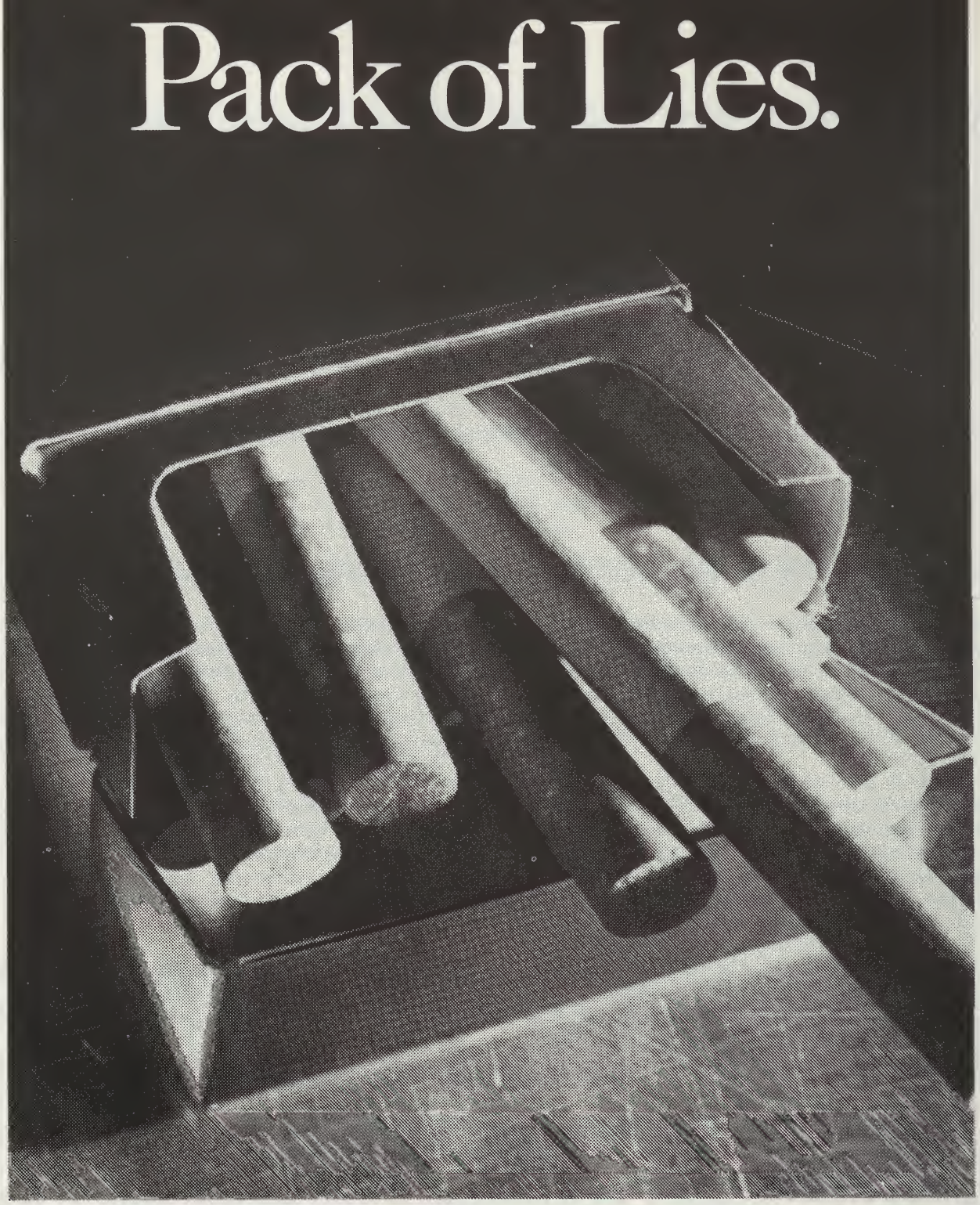
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The 1989 officers for the St. Mary's County Medical Society are *David C. Allen MD*, President; *James C. Boyd MD*, Vice-President; and *Umed K. Shah MD*, Secretary. ■

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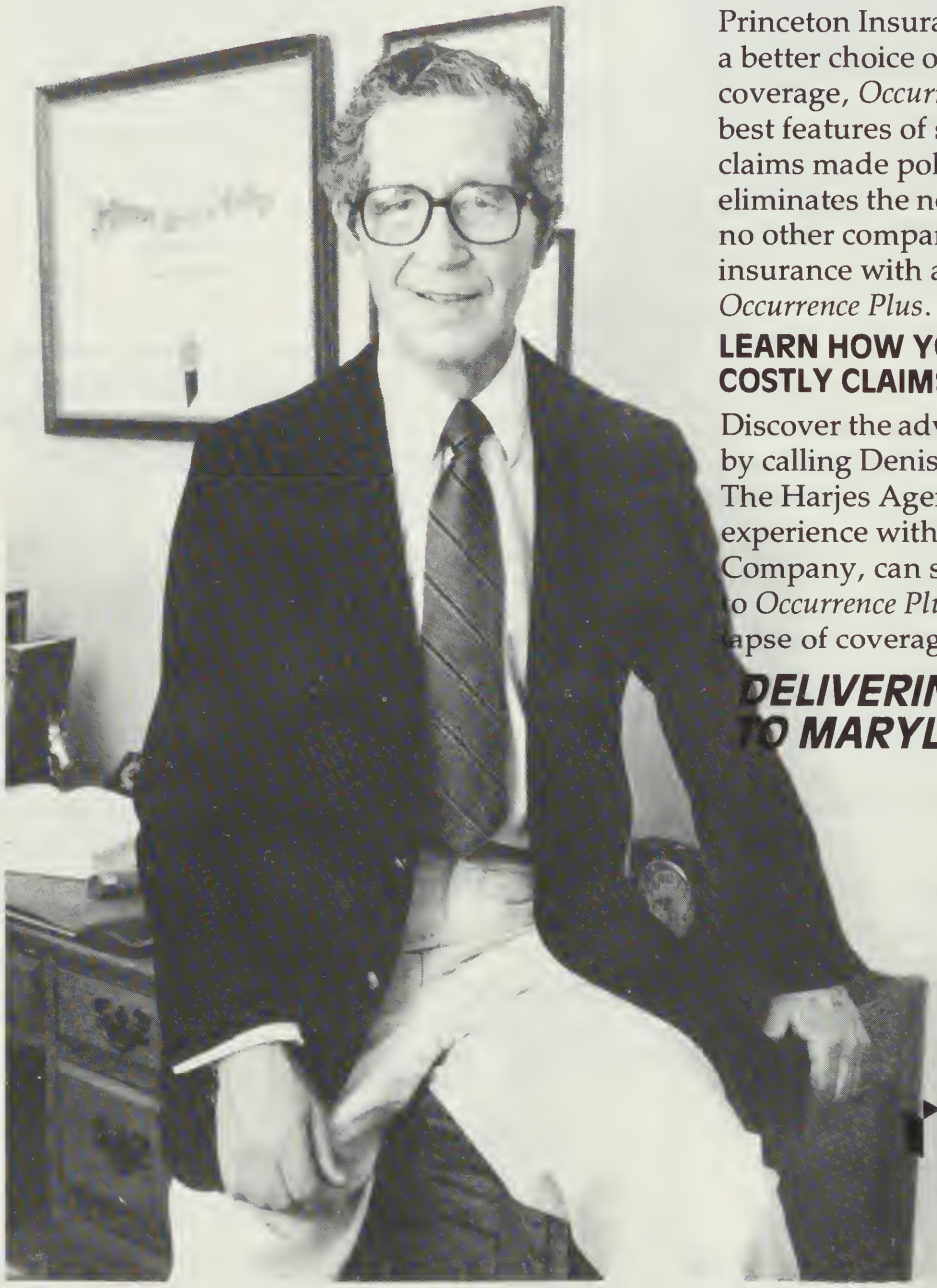
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Contraindications: VASOTEC® (Enalapril Maleate, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the tace, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See AOVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See OOSAGE ANO AOMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and AOVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the tirst two weeks ot treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial intarction or cerebrovascular accident. It excessive hypotension occurs, the patient should be placed in supine position and, it necessary, receive an intravenous infusion ot normal saline. A transient hypotensive response is not a contraindication to further doses ot VASOTEC, which usually can be given without ditticulty once the blood pressure has stabilized. It symptomatic hypotension develops, a dose reduction or discontinuation ot VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more trequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation ot enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the tirst tew weeks ot therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Oosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See OOSAGE ANO AOMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause ot discontinuation ot therapy in 0.28% of hypertensive patients. In clinical trials in heart tailure, hyperkalemia was observed in 3.8% ot patients, but was not a cause for discontinuation.

Risk tactors tor the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, it at all, with VASOTEC. (See *Drug Interactions.*)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. It hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the tirst dose ot enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling ot face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the tirst few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive tall in blood pressure because ot reduction in tluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, tever) which may be a sign ot neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the sate and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation ot treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision atter the initial dose tor at least two hours and until blood pressure has stabilized tor at least an additional hour. (See WARNINGS and OOSAGE ANO AOMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence ot clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Theretore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases ot lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation ot both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy—Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average tetal weight, occurred in rats given 1200 mg/kg/day ot enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and tetal toxicity occurred in some rabbits at doses ot 1 mg/kg/day or more. Saline supplementation prevented the maternal and tetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies in pregnant women. VASOTEC® (Enalapril Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: Milk in lactating rats contains radioactivity following administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 298/ patients.

Hypertension: The most trequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

Heart Failure: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% ot patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial intarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order ot decreasing severity within each category:

Cardiovascular: Myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION), prostate hypertrophy.

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation ot therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be tatal. If angioedema ot the tace, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause tor discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause tor discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation ot VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause tor discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart tailure patients treated with VASOTEC but are rarely ot clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% ot patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases ot neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, it possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose of enalapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose ot VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized tor at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) It possible, the dose ot the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose ot VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management ot the hypotension. The usual therapeutic dosing range for the treatment of heart tailure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart tailure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day ot VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Oosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart tailure patients with hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See OOSAGE AND AOMINISTRATION, *Heart Failure,* WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, it at the time ot dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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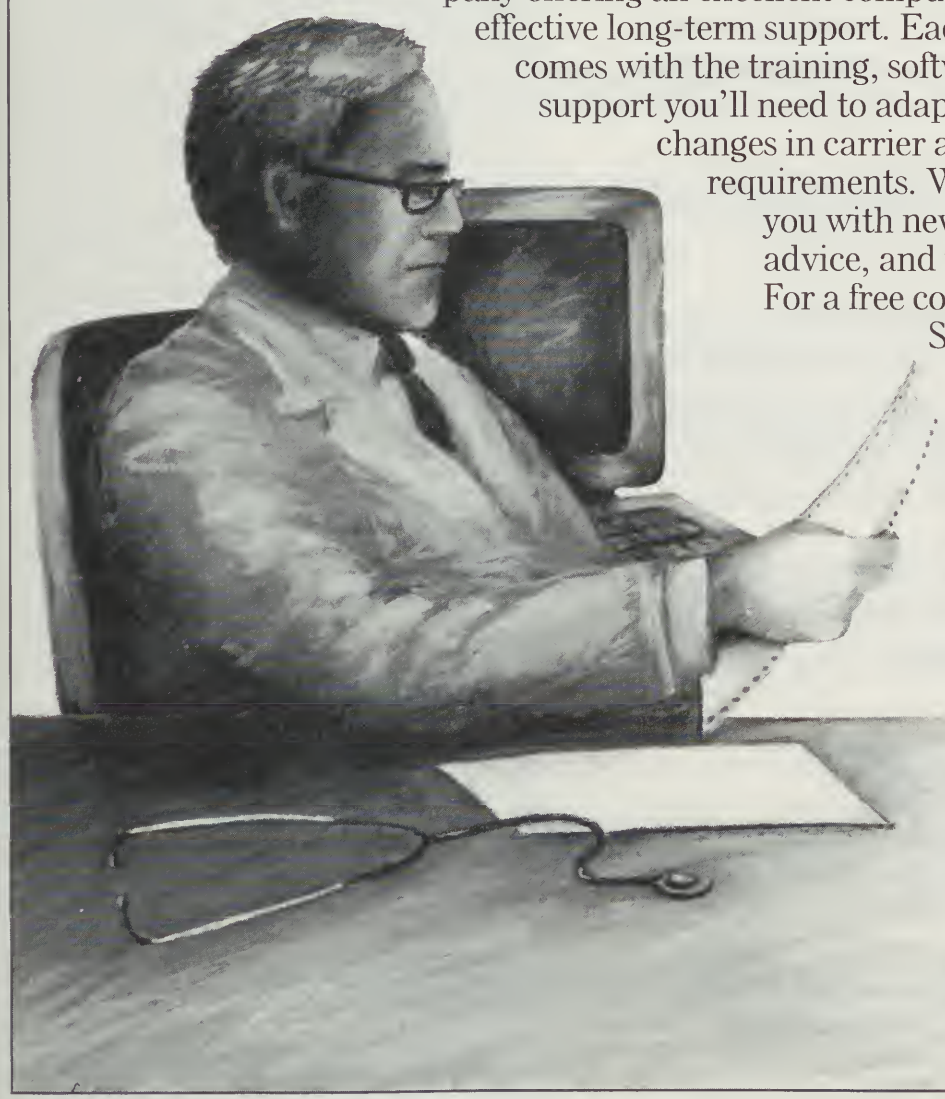


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MMJ
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With very few exceptions, the vast majority of postmenopausal women are candidates for estrogen replacement therapy.

Adverse Events Following DTP Immunization in Maryland, 1987 556
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From a total of 184 adverse events reported as occurring within 28 days following diphtheria, tetanus, pertussis immunization, more than half were serious or major vaccine reactions. Screaming episodes were the most frequently recorded serious reaction, having occurred in 35 percent of the reports.

Commentary: Changes and Challenges for the Practitioner 560
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We continue to advance our knowledge regarding susceptible hosts. As we prepare to move into the twenty-first century, historical perspectives on our past triumphs and failures allow us to feel confident to meet the challenges ahead in preventing life-threatening illnesses in persons with immune deficiency.

The Changing Scene in Health Care Delivery 563
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Religion and Medicine: An Ancient Relationship 568
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Maryland Medical Journal

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October	International Health Activities in Maryland Institutions
November	Genetics
December	Semiannual Meeting Reports

We urge authors who have an interest in any of the following proposed topics to contact *MMJ*'s Editorial Office for further information, specifications for submitting articles, and our production schedule for the next two years. In addition to articles we welcome Commentaries and Letters to the Editor.

Legislative Updates
Small Area Variation Analysis Activities
Breast Cancer
University of Maryland Department of Medicine
Physician-Patient Relations Committee
Med Chi Library's 160th Anniversary
Burns: Prevention, Treatment, and Rehabilitation
Street People, Homeless, and the Working Poor
The Role of the Physician as Patients' Advocate
Practice Manual: What Physicians Need to Know in Addition to Medicine
Medical Ethics
Committee on Physician Rehabilitation
Death and Dying

Could Your Malpractice Insurer Become Insolvent?

> Concern is mounting among public officials and analysts that a financial crisis is brewing in the insurance industry.
>
> * * *
>
> . . . there have been an average of 18 insurance failures in each of the last four years. . .
>
> *New York Times, April 15, 1989, Front Page*

Insurance companies do not have to be small to fail. Two insurance company insolvencies in 1987 accounted for failures of $1.3 billion. Many Maryland physicians are already experiencing the fear of going "bare" due to the insolvency of Mutual Fire.

The issues are complex. They concern determinations of adequate reserves for future claims, and proper underwriting and defense, among other issues. An OB GYN can be sued up to 21 years from the date of a childbirth for an alleged incident. The doctor may or may not be practicing at that time. If inadequate reserves are maintained, the same may be true of the insurer. Can you make the necessary evaluations? Do you know what questions to ask?

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JULY 1989

Selected Communicable Diseases in Maryland in 1988

The following report describes briefly the epidemiology of selected reported communicable diseases in 1988 in Maryland. For many diseases, additional data were collected through active morbidity, mortality, and laboratory surveillance.

All reported diseases and conditions are summarized by county in two tables at the end of this report.

The number in parenthesis after the name of each disease indicates the reported cases with onset of illness in 1988. Following, is the incidence rate in Maryland, and then the U.S. rate, based on the cumulative number of cases reported to the MMWR System in 1988 (CDC. MMWR 1989, 37:51&52) and the U.S. Bureau of Census, population estimate on July 1, 1988.

BOTULISM (2)
0.04/100,000 (U.S. - 0.03/100,000)

One botulism type A case involved a three month old infant. The source of infection was not identified. A foodborne case in an 18 year old male with classical symptoms, was caused by homemade tomato sauce and beef meatballs kept for one week without refrigeration, before consumption. Type A botulinal toxin was found in the patient's blood serum and in the sauce and meatball specimen.

CHOLERA (1)
0.02/100,000 (U.S. - 0.03/100,000)

The diagnosis was confirmed by culturing Vibrio cholerae serovar 01, serotype Inaba, from feces. The suspected source of infection was oysters consumed at a restaurant, three days before the onset of symptoms.

ENCEPHALITIS (18)
0.4/100,000 (U.S. - 0.4/100,000)

Nine (50%) cases occurred in the first quarter of the year, with highest incidence in Harford County (3.0 per 100,000). The male:female ratio was 1:0.9. All patients were white with the exception of one black male and one black female. The age ranged between 1 and 86 years (median 37, mean 45.5 years). Herpes viruses caused 5 of the cases, M. tuberculosis - 1, Epstein-Barr virus - 1, and the rest were of unknown etiology. Three (16.7%) patients died; the rest recovered.

GONORRHEA (20,982)
458.1/100,000 (U.S. - 285.5/100,000)

Gonorrhea decreased by 14% in 1988 compared to 1987. At the same time, penicillinase-producing Neisseria gonorrhoeae (PPNG) increased by more than 300%. In addition, tetracycline resistance was up to 15% in gonococcal isolates from Baltimore City and Prince George's County, where sensitivity tests are performed on a periodic sample. The Division of Sexually Transmitted Diseases Control, therefore, reiterates that tetracycline alone should NOT be used as an alternative to the accepted treatment regimens. Antibiotic resistance testing must be considered when treating suspected or confirmed cases.

HAEMOPHILUS INFLUENZAE INFECTIONS (122)
2.7/100,000 (U.S. - Not available)

The incidence of H. influenzae type b disease remained unchanged from 1987. Currently, in Maryland, only H. influenzae meningitis is reportable by law (which we expect to change by the end of 1989 when all invasive H. influenzae infections will be included in the list of reportable conditions). Nevertheless, in addition to the 85 meningitis cases, reports were received on 19 primary bacteremia, 5 pneumonia, 3 conjunctivitis, 3 epiglottitis, 2 buccal infections, 1 osteomyelitis, 1 otitis media, 1 rhinitis, 1 tracheitis, and 1 periorbital infection. The distribution by type of illness is presented on Figure 1.

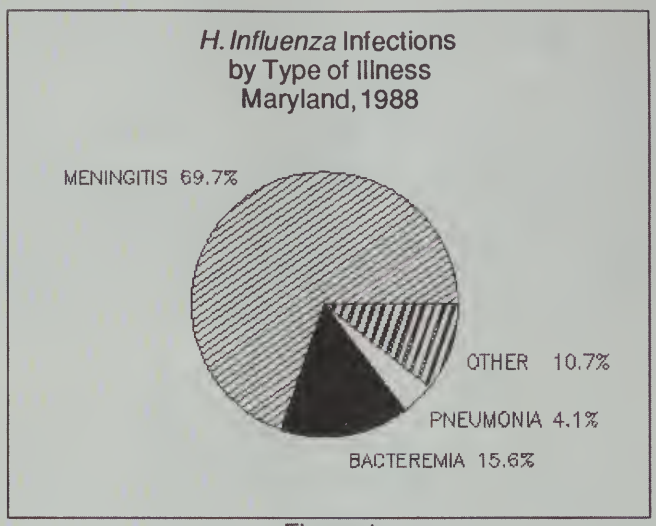


Figure 1

H. influenzae disease was least likely to occur in the summer; only 16.4% were reported in July through September. The male to female ratio was 1.1:1. Almost 31% of the females and 38% of the males were black, indicating disproportionately higher incidence among blacks. Seventy-five (61.5%) of the cases were less than 18 months of age, including 5 newborns, and 4 were adult cases 65 to 74 years of age. Thirty-six patients were eligible for vaccination (18 months to 5 years of age). Of these, 8 (22.2%) had been vaccinated before the onset of illness, 12 (33.3%) had not been vaccinated and 16 (44.4%) had an unknown vaccination status. H. influenzae ampicillin resistance dropped slightly to 42.1% (Table 1). Four patients with meningitis and 1 with epiglottitis died, 87 survived, the outcome of the rest (30) is not known.

To be continued in the August issue of the Newsletter.

Table 1
Ampicillin-Resistant *H. Influenza* in Maryland, 1981-1988

Year	Reported *H. Influenza* Infections	Resistance to Ampicillin No. Tested	No. Treated	% Resistant
1981	58	39	6	15
1982	87	61	13	21
1983	93	68	19	28
1984	118	86	32	37
1985	100	168	23	34
1986	109	54	18	33
1987	124	70	31	44
1988	122	64	27	42

MARYLAND STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE
REPORTED CASES OF NOTIFIABLE DISEASES IN MARYLAND IN 1988 BY ONSET DATE

		RUBEOLA (MEASLES)	RUBELLA (GERMAN MEASLES)	INF. PAROTITIS (MUMPS)	PERTUSSIS	VIRAL HEPATITIS				MENINGOCOCCAL INFECTIONS	H. INFLUENZAE INFECTIONS	MENINGITIS, VIRAL	ENCEPHALITIS, VIRAL	ROCKY MOUNTAIN SPOTTED FEVER	TUBERCULOSIS	SALMONELLOSIS	TYPHOID FEVER	SHIGELLOSIS	SYPHILIS, PRIMARY AND SECONDARY	SYPHILIS OTHER	GONORRHEA	ANIMAL BITES	RABIES, ANIMAL
						A	B	NA/NB	UNSP.														
	1988	19	1	204	43	307	691	49	47	57	122	213	18	26	466	1617	6	736	689	925	20982	9413	338
	1987	10	4	47	27	253	849	58	39	55	124	389	32	43	429	1810	8	632	597	621	24132	10524	450
	1986	35	1	34	166	198	840	84	29	52	109	275	34	23	362	1642	16	233	448	574	28287	10451	683
	1985	115	6	38	312	89	709	120	52	61	100	281	32	27	434	1504	12	190	500	663	31270	11065	760
	1984	22	1	46	59	60	694	109	85	46	118	215	37	26	427	1346	3	242	451	704	28480	11484	1100
Population Maryland State	4,580,200																						
Baltimore City	750,900	–	–	3	4	40	191	4	25	8	30	43	3	1	172	335	1	403	298	433	10377	1558	5
Counties, total	3,829,300	19	1	201	39	267	500	45	22	49	92	170	15	25	294	1282	5	333	391	492	10605	7855	333
Allegany	73,500	–	–	–	–	3	2	–	–	1	–	2	–	–	3	24	–	–	1	1	52	271	17
Anne Arundel	418,800	–	–	33	3	25	47	2	6	6	4	10	–	–	18	101	–	46	20	37	785	1228	18
Baltimore Co.	681,000	2	–	11	4	24	62	7	1	7	14	36	5	1	52	217	1	76	15	44	724	676	46
Calvert	46,800	–	–	3	–	2	5	2	–	–	5	–	–	–	–	15	–	1	4	4	117	94	7
Caroline	24,900	–	–	1	2	1	1	1	1	–	–	3	–	5	3	12	–	–	6	4	89	35	1
Carroll	117,500	3	–	3	–	1	21	2	–	–	1	8	1	–	6	27	–	7	1	1	41	344	25
Cecil	70,100	–	–	–	1	5	28	1	–	1	6	11	–	1	–	42	–	1	2	7	104	320	20
Charles	94,900	–	–	8	4	6	11	1	1	–	5	7	1	–	4	82	–	6	9	9	229	267	7
Dorchester	29,900	–	–	–	2	1	17	1	–	–	–	1	1	2	5	8	–	1	6	5	394	73	–
Frederick	137,900	2	–	1	6	8	64	1	–	–	4	1	1	–	6	23	–	–	2	3	306	376	66
Garrett	26,100	–	–	–	1	1	1	–	–	1	–	–	–	–	–	9	–	–	–	–	4	106	5
Harford	164,600	1	–	–	–	16	42	6	2	2	–	9	5	3	5	38	–	10	1	4	205	363	10
Howard	161,700	–	–	2	1	12	13	3	–	–	4	4	–	1	5	48		16	4	7	117	318	15
Kent	17,000	–	–	–	–	1	–	–	–	–	1	1	–	–	–	5	–	1	–	–	29	32	1
Montgomery	700,000	11	1	21	9	110	44	4	5	10	19	27	–	1	85	256	4	45	24	80	866	1310	53
Prince George's	688,300	–	–	115	4	35	91	5	1	14	21	26	–	1	69	194	–	64	267	236	5107	1107	14
Queen Anne's	31,400	–	–	1	1	–	5	–	1	–	1	4	–	3	3	10	–	–	–	–	52	119	–
Saint Mary's	71,000	–	–	–	–	2	9	1	–	–	1	1	–	1	3	39	–	–	1	3	169	166	6
Somerset	19,600	–	–	–	1	1	6	2	–	–	–	–	–	–	2	8	–	2	3	6	111	51	–
Talbot	27,700	–	–	–	–	3	2	2	–	–	1	4	–	4	2	11	–	–	3	4	111	67	–
Washington	116,700	–	–	1	–	1	21	1	2	3	1	8	1	2	5	48	–	10	7	21	323	232	22
Wicomico	72,000	–	–	–	–	8	2	3	2	2	4	4	–	–	16	43	–	47	14	14	515	225	–
Worcester	37,900	–	–	1	–	1	6	–	–	2	–	3	–	–	2	22	–	–	1	2	155	75	–

OTHER DISEASES	STATE	BALTIMORE CITY	COUNTIES
AIDS	524	254	Al-2, AA-17, Balt-30, Cal-1, Carol-1, Carr-1, Cec-4, Ch-4, Fr-5, Har-7, How-10, Mont-77, PG-81, QA-1, Som-1, StM-3, Tal-2, Wash-3, Wic-5, Wor-3, prisons-12
Amebiasis	16	1	AA-1, Balt-1, Mont-5, PG-6, Wic-2
Botulism	2	-	Har-1, Mont-1
Brucellosis	2	1	Fr-1
Chickenpox	3076	177	Al-6, AA-148, Balt-244, Cal-9, Carol-1, Carr-10, Cec-22, Ch-40, Dor-10, Har-160, How-740, Kent-3, Mont-413, PG-881, QA-8, StM-2, Som-1, Tal-1, Wash-87, Wic-64, Wor-49
Cholera	1	1	StM-1
Guillain-Barre' syndrome	20	-	AA-1, Balt-4, Cal-1, Ch-1, Fr-1, Har-1, How-2, Mont-2, PG-2, StM-1, Som-1, Wash-3
Influenza	1349	229	AA-427, Balt-1, Cal-24, Carol-12, Carr-59, Ch-54, Fr-1, Har-296, How-173, Kent-6, Mont-59, Wic-8
Kawasaki disease	15	-	AA-4, Carr-2, How-1, Mont-5, PG-3
Legionellosis	30	3	Al-2, AA-1, Balt-6, Cec-5, Fr-3, Gar-1, Mont-2, PG-1, StM-1, Wash-5
Leprosy	2	1	Mont-1
Lyme disease *	55	3	AA-11, Balt-8, Cal-2, Cec-1, Ch-5, Fr-1, Har-1, How-1, Kent-1, Mont-9, PG-3, QA-2, Talb-5, Wic-2
Malaria	27	3	Balt-1, Har-1, Mont-15, PG-7
Meningitis, bacterial, other **	167	38	Al-6, AA-12, Balt-24, Cal-3, Carol-1, Carr-5, Cec-2, Ch-3, Dor-1, Fr-3, Har-5, How-5, Gar-1, Mont-21, PG-22, StM-1, Som-1,Tal-1, Wash-6, Wic-4, Wor-2
Meningitis, fungal	18	10	Balt-1, Mont-4, PG-3
Mycobacteriosis, atypical	466	172	Al-3, AA-18, Balt-52, Carol-3, Carr-6, Ch-4, Dor-5, Fr-6, Har-5, How-5, Mont-85, PG-69, QA-3, StM-3, Som-2, Tal-2, Wash-5, Wic-16
Non-staph. infections in newborn	171	18	AA-7, Balt-53, Cal-1, Cec-8, Ch-1, Har-35, How-4, Mont-22, PG-14, Tal-1, Wash-2, Wic-5
Psittacosis	2	-	Balt-1, Mont-1
Reye syndrome	1	-	PG-1
Staph.infections in newborn	35	3	Balt-11, Carol-1, Fr-1, Har-5, Mont-4, PG-5, QA-1, StM-1,Tal-1, Wic-1, Wor-1
Streptococcal infection	13973	608	Al-983, AA-1067, Balto-1297, Cal-79, Carol-1, Carr-255, Cec-101, Ch-1605, Fr-2, Har-684, How-2392, Kent-15, Mont-1377, PG-2183, QA-44, Som-40, StM-39, Tal-357, Wash-154, Wic-690
Tetanus	1	-	Balt-1
Toxic shock syndrome	3	-	AA-1, Balt-1, Har-1
Tularemia	3	1	Balt-1, Fr-1
Typhus, murine	1	-	QA-1

* some additional cases are still under investigation
** excluding N. meningitidis and H. influenzae meningitis

The Personality Disorder Treatment Program of Sheppard Pratt Hospital.

You know—perhaps firsthand—how treating a borderline patient can become a vicious circle. The harder you try to help, the more resistant, or even abusive your patient becomes, until both of you are left frustrated and exhausted.

But how do you break the therapeutic deadlock? Changing therapists may only begin the cycle all over again. And a brief hospital stay usually produces only temporary improvement.

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The process is not easy. Serious personality disorders do not lend themselves to a "quick fix." But we are encouraged by the number of our patients who have, in time, broken out of the vicious circle.

If you would like to know more about the Sheppard Pratt approach to the borderline patient and other patients with severe personality disorders, contact the Admissions Office at (301) 938-3800 or toll free 1-800-627-0330, The Sheppard and Enoch Pratt Hospital, 6501 North Charles Street, P.O. Box 6815, Baltimore, MD 21285-6815.



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Preservation in the History of Medicine Collection

The ancients so revered knowledge that the scroll or tablet on which the laws were etched were often as sacred as life itself, perhaps even moreso. Today that feeling still persists. Who hasn't dreamed of writingthe great American novel and thus beating death by insuring literary immortality? Sadly, even books are mortal. Between 1850 and 1960 with the increased use of wood pulp in papermaking the lifespan of a book was diminished. Now many libraries are faced with books too brittle to use.

An important aspect of any librarian's job is ensuring the longevity of the collection that he or she is responsible for. Today that responsibility includes making decisions regarding preservation. While Med Chi's History of Medicine Collection is in good shape there are still efforts that need to be made. The Staff of the Library, along with the Library and History Committee, are taking many of these steps to insure that the extensive collection gathered by Med Chi over the years will remain for future generations to use.

Preservation

One step that we are testing and reviewing is the possible deacidification of sections of the book collection. This process involves selecting titles that need attention, sending these items to a conservation facility where the books will receive a gaseous infusion of paraleyne. Once completed it is hoped that many of the now-brittle items in the Collection will be able to withstand limited use. This clear paraleyne coating will not alter the physical appearance of the item but will arrest the chemical breakdown of the paper fibers that contribute to brittleness.

Another simple step that can go a long way to improving the condition of the book collection is cleaning the stacks area. Accumulated dust and dirt can encourage the growth of airborne molds and attracts insects. This summer the staff of the History of Medicine Collection will undertake a housecleaning program of dusting, vacuuming, and replacing metal book ends in our efforts to preserve the collection.

The History of Medicine Collection recently received a ledger that belonged to Med Chi founder Francis Brown Sappington. The gift from Dr. Samuel Chase of Frederick came to him through Mary Angell Sappington, a descendant of Francis. The book contains an alphabetical list of patients visited and the dates, treatments prescribed, and the costs charged. In addition, several notes at the back testify to Dr. Sappington's honesty and accuracy in preparing his bills.

The archives and manuscript materials also are receiving attention. Currently this involves replacing highly acidic office file folders with pH-neutral file folders, surface cleaning as needed, boxing all items, and storing flat as required.

Artifacts

Along with paper items Med Chi also possesses a number of fine medical artifacts. In order to preserve this material we will undertake an effort to place the instruments in plastic bags, relabel them, and then store the instruments in acid-free map boxes. You might wonder if storing the artifacts in plastic is harmful. The answer is no. Plastic bags (such as ziploc sandwich bags) provide a stable microenvironment that allows researchers to study the instrument without direct contact with the item. This helps avert the problems of mechanical damage and the buildup of skin oils on the artifact. Many archaeological collections, including the Baltimore Center for Urban Archaeology, use this method for their research collections.

Art Works

The fine art pieces, which are an exciting part of the History of Medicine Collection, have been reviewed by

The History of Medicine Collection has instituted the following policies for using rare book, monographs, and archival material. By asking our researchers to follow these simple guidelines, we can ensure that the Faculty's material will receive proper care when in use.

- Never remove a book from the shelf by the top as this can pull the spine away from the text block (the pages), causing the binding and pages to sag.
- NO food or drinks should be brought into the reading room when rare or unique materials are in use.
- Only pencils and a notepad are allowed to be used with the History of Medicine Materials. Remember ink stains!
- Coats, briefcases, bookbags, cameras, hand-held photocopiers must be left in the History of Medicine Collection Office.
- Photocopies are available only upon the approval of the Archivist.
- When taking notes please do not lean, write on, or place items on the requested material.
- Under no circumstances will the researcher publish any part of the requested material without the explicit written approval of the Archivist.

several art restoration firms and are scheduled for at least one more review. After that we will begin to look at the cost estimates and decide how we will approach the needs of this special group of materials.

One method under consideration for the oil portraits is the application of a layer of hot wax to the back of the canvas. This method loosens dirt and accumulated varnish (the latter is what gives many older oil paintings a yellow tinge) without harming the image. Once completed the restorer can direct attention to any overpainting, tears, and frame repairs.

Preserving a collection as important as ours is a long process but certainly one worth the effort. It is only through the printed word and the preservation of that word that mankind can approach something akin to immortality.

The History of Medicine Collection has a small collection of preservation literature if you are interested in reading more about library or museum practices. Please feel free to stop by the History of Medicine Collection on the second floor or call 301-539-0872.

BILL SLEEMAN
Med Chi Archivist ■

Maryland Advertisers
To advertise in *MMJ* call:
Intramedia Network Corporation
301-528-1821

Area meetings and course announcements are listed each month under
Doctors Take Note

Speak Out on Consultation

Consultation, a radio program sponsored by the Medical and Chirurgical Faculty of Maryland allows Med Chi physicians to appear each week on the program to discuss the latest developments in medicine and to answer questions about health issues. Med Chi currently airs two sessions of Consultation:

Saturday Evening Consultation
A live program
Saturday from 5:00 to 6:00 p.m. and 6:00 to 7:00 p.m.
Broadcast across the country
An hour-long program
Call-in format: Physician answers questions from listeners

Sunday Morning Consultation
A pre-taped program
Sunday at 7:30 a.m.
Broadcast on WBAL - AM radio
A half-hour program
Interview format: one-on-one talk with John Stupak

Med Chi encourages all physicians to appear on these innovative programs. To register fill in the form below.
Yes, I am interested in speaking on Consultation. Please contact me with scheduling information.

Name _____ Address _____

Phone _____ Specialty _____

Return this form to: Betsy Newman, Med Chi, 1211 Cathedral Street, Baltimore, MD 21201.
For more information contact Betsy Newman at 301-539-0872 or in Maryland 1-800-492-1056.

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Executive Director's Newsletter

July 1989

Mutual Fire Inland and Marine Malpractice Insurance

On January 31, 1989, Mutual Fire, as a result of its insolvency, filed a revised plan of rehabilitation with the Commonwealth Court of Pennsylvania. In part, the rehabilitation plan provides for the payment of policyholder claims that exceed $5,000 on a proportional basis from the assets of Mutual Fire. In the June issue of this newsletter, it was inadvertently stated that the law firm of Spiegel & McDiarmid "have been retained by Mutual Fire to provide policyholders with information about the company." Mutual Fire has not retained the law firm. Spiegel & McDiarmid were appointed by the Commonwealth Court of Pennsylvania to represent the Policyholder Committee. The law firm has filed with the Court a statement in support of the rehabilitation plan and a request for modifications. Spiegel & McDiarmid is able to respond only to policyholder's questions about Mutual Fire's rehabilitation plan.

PRO Activities

The Delmarva Foundation for Medical Care (DFMC), as the federally designated Professional Review Organization, has begun to implement federal contractual requirements effective April 1, 1989. Following is a brief description of the Preadmission/Preprocedure Review Requirements and Quality Review Requirements.

Preadmission/Preprocedure Review Requirements One major change by DFMC for PRO review in the Third Scope of Work is the preadmission/preprocedure review. This review requirement became law April 7, 1986 under Section 1164 of the Social Security Act. It became effective April 1, 1989 and is now being implemented across the country.

As mandated by the Health Care Financing Administration (HCFA), ten selected procedures are to be reviewed. Two procedures were required by HCFA, cataract extraction and carotid endarterectomy. The remaining eight procedures were selected by DFMC Surgery Subcommittee of the Maryland Criteria Panel based on the following criteria, established by the law:

1. The procedure generally can be postponed without undue risk to the patient.
2. The procedure is a high-volume procedure among Medicare patients or is a high-cost procedure.
3. The procedure has a comparatively high rate of non-confirmation upon examination by another qualified physician or there is substantial geographic variation.

The additional eight procedures selected are: cardiac catheterization, carpal tunnel release, coronary artery bypass with graft,

percutaneous transluminal coronary angioplasty, laminectomy, inguinal hernia repair, prostatectomy and pacemaker insertion. The review is to occur for these procedures, whether they are performed inpatient or outpatient. Procedures performed in physicians' offices do not require preprocedure review.

With the goal of preventing admission for procedures that can be safely performed on an outpatient basis and preventing medically unnecessary performance of procedures, this review assesses the appropriateness of the setting, the medical necessity for the admission and/or procedure, as well as the quality of the services provided.

When a physician determines that a Medicare patient requires one of the targeted procedures, a "Request for Preadmission/Preprocedure Review" must be referred to DFMC for approval for Medicare reimbursement. This request must be completed by the physician or hospital documenting the necessity of the procedure/admission. It can be mailed to DFMC or it can be sent via FAX machine to 301-822-1996.

Once the medical information is obtained, it will be screened against the DFMC criteria. If it fails the criteria, a local physician advisor will review the request, and the attending physician will be given opportunity to provide additional information. If the request is denied, the patient, physician, and hospital will be notified within three working days of the date of review with the specific reasons for the denial and the reconsideration and appeals rights. If the admission/procedure is approved, the physician will be sent notification of the review decision in 24 hours.

Review is required for all ten procedures, whether elective, urgent, or emergent. For urgent cases, DFMC will accept preadmission requests over the phone, or in the case of emergency surgery, the request should be mailed or FAXed the next working day. Normally, this review will be completed that day unless referral to physician advisor is indicated, in which case, the review will be completed in three working days.

Cases not identified by the provider (and therefore not subject to review) will be pended by the fiscal intermediary and referred to DFMC for review prior to payment. Any case in which the procedure was performed despite preprocedure review denial will be reviewed by DFMC retrospectively.

For additional information, contact Julie Crocker RN, MS at 341B North Aurora St., Easton MD 21601 (1-800-999-3362). A preadmission/preprocedure packet, which includes the criteria and a request form, is available on request from the DFMC.

Quality Review Requirements The Quality Review Process, as developed for the new PRO contract by DFMC (effective 4/1/89), is one component of the retrospective review process. Each case identified for PRO review is reviewed for quality. The process begins with the nurse reviewer who applies the generic quality screens as mandated by HCFA. When a screen is failed, the case is reviewed by a physician specialist, and the attending physician is provided the opportunity to discuss the case. It is very important that the attending physician respond to this request for additional information to assure that all factors in each case are considered.

If the physician specialist confirms a quality problem or if no additional information is presented, one of the following severity levels is assigned and the weighted score noted.

Weight 1-Level 1-
Medical mismanagement *without the potential* for significant adverse effects on the patient.

Weight 5-Level 2-
Medical mismanagement *with the potential* for significant adverse effects on the patient.

Weight 25-Level 3-
Medical mismanagement *with significant adverse effect* for the patient. A problem that is determined to be gross and flagrant may be classified as Level 2 or Level 3 problem.

"Significant adverse effect" is defined as:

1. Unnecessarily prolonged treatment, complications or requiring readmission; or
2. Patient management resulting in anatomical or physiological impairment, disability, or death.

"Gross and flagrant" is defined as: A violation of an obligation that has occurred in one or more instances and that presents an imminent danger to the health, safety, or well-being of a Medicare beneficiary or unnecessarily places the beneficiary in a high-risk situation where substantial and permanent harm may occur.

In some instances, if the nurse reviewer identifies a potential Level 1 quality concern, the case is not considered a "problem." It is pended and only referred to the physician specialist for review if a pattern has developed. A "pattern" is defined as three Level 1 cases in a calendar quarter or five Level 1 cases in a bi-quarter. These screens include:

- Adequacy of discharge planning
- Nosocomial infection
- Fall
- Hospital acquired decubitus ulcer and/or deterioration of existing decubitus

Profiling will be conducted on a quarterly basis by practitioner/provider of all confirmed quality problems identified. The weighed severity level score will be computed. These data will be used to determine the need for both initiation and type of quality intervention to be used. These interventions are educational and include:

- Notification: All physicians are informed when a confirmed quality problem pattern is identified of Level 1 cases and/or a weighted severity score of 10, 15, 20, or 25 has been reached.
- Educational efforts, may include:
  - Literature references
  - Telephone and/or in-person discussions
  - Continuing Medical Education courses
  - Self-education courses
  - Assignment of Specialist Consultation
- Intensified Review: To provide an indepth analysis of the Medicare inpatient practice, a 100 percent retrospective review or focused intensified review may be instituted for a minimum of a quarter.

Oversight of the intervention plan will be the responsibility of the Maryland Quality Panel, which is composed of board certified physician specialists. Participation at the monthly meeting of the panel will vary depending on the specialty of cases to be reviewed.

Practitioners/providers will be referred by the panel to the DFMC Board of Trustees for sanction consideration when a weighted score of 25 points is achieved in one quarter. Sanction consideration may be at any level and will not be based solely when a trigger threshold is reached. Sanction would be employed primarily when beneficiaries need immediate protection from substantial risk or when other methods of quality intervention were ineffective.

DFMC will evaluate the effectiveness of all interventions by reviewing the first 25 admissions processed in the second quarter following the intervention. The results of the monitoring will be the responsibility of the Maryland Quality Panel.

To inform Med Chi members of the significance of these activities, the Executive Committee has approved the concept of establishing a forum during Med Chi's Semiannual meeting in September with representatives of the Faculty's PRO Committee, interested physicians, and members of Delmarva PRO.



Angelo J. Troisi, FACHE
Executive Director

1989 Semiannual Meeting

Medical & Chirurgical Faculty's Semiannual Meeting

Thursday - Saturday
September 14-16, 1989

Hotel Reservation Form

Sheraton Ocean City Resort & Conference Center
10100 Coast Highway
Ocean City, Maryland 21842

Please reserve hotel accommodations as indicated.

Name(s)_____

Address_____

City _____ State _____ Zip____

Telephone_____

Arrival Date _____ Departure Date _____

Number in Party: Adults _____ Children _____

Reservations must be received no later than **FOUR WEEKS** prior to arrival date. **ONE NIGHT'S DEPOSIT MUST ACCOMPANY RESERVATION.** Credit cards and personal checks will be accepted for deposits. **NO** personal checks will be accepted after arrival. All rates subject to 8% tax. 72 hour cancellation or change notice required

Payment information

Name as it appears on credit card (please print) _____

Card # _____Exp. Date_____

Signature_____

Check amount _____

Rooms will be released on August 13, 1989 and will be accepted on a space available basis only.

Single/Double Oceanview Rooms	$95.00
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Third Floor Suite	$180.00

Please mail this reservation form with your payment to:

Reservations
Sheraton Ocean City Resort & Conference Center
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(301) 524-3535 or 1-800-638-2100 (toll-free in Maryland)

* * * IMPORTANT * * *

MARYLAND LAW REGARDING NOTICE OF PARTICIPATION IN THE MEDICARE PROGRAM

On July 1, 1985 a law was passed in Maryland requiring physicians to post a notice in their offices regarding their participation status in the Medicare program. It has been brought to our attention that some physicians are not complying with this law. Therefore, Med-Chi has developed the signs on the next 3 pages for your use. The appropriate sign should be detached and posted in your office.

The law, which is outlined in Section 14-705 of the Health Occupations Article of the Annotated Code of Maryland, states:

> If a physician is engaged in the private practice of medicine in this State, the physician shall display a notice written in English that is plainly visible to patients in the office of the physician concerning whether the physician:
> (1) Is a participating physician under the Medicare program and, therefore, accepts assignment for all Medicare claims;
> (2) Accepts Medicare assignment on a case-by-case basis; or
> (3) Does not accept Medicare assignment in any case.
>
> This requirement DOES NOT apply to a physician or group of physicians who:
> (1) Have exclusive contracts with a health maintenance organization;
> (2) Treat only the patients of the health maintenance organization; and
> (3) Agree to accept full assignment for covered services rendered.
>
> **A PERSON WHO VIOLATES ANY PROVISION OF THIS LAW IS GUILTY OF A MISDEMEANOR AND ON CONVICTION IS SUBJECT TO A FINE NOT TO EXCEED $5,000 OR IMPRISONMENT NOT EXCEEDING 5 YEARS OR BOTH.**

If you have any questions about this matter, contact the Med-Chi Government Relations Department at 539-0872 or 1-800-492-1056.

For My Medicare Patients

I PARTICIPATE IN THE MEDICARE PROGRAM
AND
ACCEPT ASSIGNMENT FOR ALL MEDICARE CLAIMS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



_____
Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I ACCEPT MEDICARE ASSIGNMENT ON A CASE-BY-CASE BASIS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I DO NOT ACCEPT MEDICARE ASSIGNMENT IN ANY CASE

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.

Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

AXID®

nizatidine

Enhances compliance and convenience

Patients appreciate Axid, 300 mg, in the Convenience Pak

In a Convenience Pak survey (N = 100)[1]

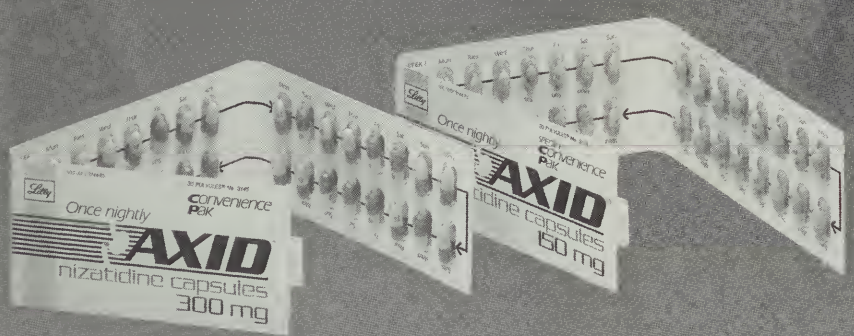
- 100% said the directions on the Convenience Pak were clear and easy to understand
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Pharmacists save time – at no extra cost

- The Convenience Pak saves dispensing time and minimizes handling

The Convenience Pak promotes patient counseling

- Pharmacists dispensing the Axid Convenience Pak can encourage compliance and continued customer satisfaction



Convenience Pak is available at no extra cost

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Indianapolis, Indiana
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1. Data on file, Lilly Research Laboratories

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AXID®

nizatidine capsules

Brief Summary

Consult the package literature for complete information.

Indications and Usage: Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer. In most patients, the ulcer will heal within four weeks.

Axid is indicated for maintenance therapy for duodenal ulcer patients at a reduced dosage of 150 mg h.s. after healing of an active duodenal ulcer. The consequences of continuous therapy with Axid for longer than one year are not known.

Contraindication: Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other H_2-receptor antagonists.

Precautions: *General* — 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency.

3. Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests — False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

Drug Interactions — No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility — A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice; although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy — Teratogenic Effects — Pregnancy Category C — Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers — Studies conducted in lactating women have shown that <0.1% of the administered oral dose of nizatidine is secreted in human milk in proportion to plasma concentrations. Caution should be exercised when administering nizatidine to a nursing mother.

Pediatric Use — Safety and effectiveness in children have not been established.

Use in Elderly Patients — Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among reported adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs < 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine.

Hepatic — Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients and was possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L) and, in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular — In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

CNS — Rare cases of reversible mental contusion have been reported.

Endocrine — Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic — Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H_2-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental — Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity — As with other H_2-receptor antagonists, rare cases of anaphylaxis following administration of nizatidine have been reported. Because cross-sensitivity in this class of compounds has been observed, H_2-receptor antagonists should not be administered to individuals with a history of previous hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other — Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine administration have been reported.

Overdosage: Overdoses of Axid have been reported rarely. The following is provided to serve as a guide should such an overdose be encountered.

Signs and Symptoms — There is little clinical experience with overdosage of Axid in humans. Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous median lethal doses in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

Treatment — To obtain up-to-date information about the treatment of overdose, a good resource is your certified regional Poison Control Center. Telephone numbers of certified poison control centers are listed in the *Physicians' Desk Reference (PDR)*. In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs, and unusual drug kinetics in your patient.

If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance.

PV 2096 AMP [013089]

Additional information available to the profession on request.

Pro Update

Maryland's PRO is the Delmarva Foundation for Medical Care, Inc. (DFMC). Many physicians have expressed concerns regarding PRO actions and communication problems. To help Maryland physicians better understand the federally regulated PRO requirements and how the review-denial-appeals process works, the Maryland Medical Journal, *in cooperation with Delmarva, publishes PRO Update in an attempt to define and clarify these issues, often by using case examples to illustrate general topics. We welcome readers' comments regarding the impact of these regulations on the quality of care delivered to patients.*

JOHN A. SINGER MD, Chairman
Medical and Chirurgical Faculty
Peer Review Organization Monitoring Committee

In the last month's PRO Update, general background information on Maryland's Peer Review Organization (PRO) was presented. Specific aspects of the review process will be illustrated in this and subsequent issues.

Case Example: Utilization Review with Denial

There are two main categories of review findings: Quality Assurance and Utilization Review. Each case selected for review undergoes a full-menu review, covering both quality and utilization issues. We present a case that demonstrates an instance in which there was a utilization problem but no identified quality concern or problem found. (There are cases when one review may result in both a utilization denial and a quality problem determination.) In the next issue we will present a case illustrating a problem with the quality of care.

Clinical Course Mr. Doe is a 66-year-old, WDWN white male with coronary atherosclerosis, hyperplasia of the prostate, and uncomplicated diabetes, adult onset. He had a history of unstable angina and an acute MI, and cardiac catherization had revealed severe, multivessel occlusive disease with a 42% ejection fraction. He was admitted to a hospital for coronary artery bypass graft on 05/05/88.

The patient underwent surgery on 05/06/88 and for the next nine days required multiple acute services, including maintenance of heart rate by pacer for several days.

On 05/13/88, Mr. Doe was transferred from CCU to the floor. His incision was healing well, and pulmonary and cardiac functions were stable. However, his hematuria continued. On 05/15/88 it was noted that the patient "ambulates OK" and that the urologist was going to cystoscope patient due to hematuria. It was also noted that Mr. Doe had stable BP with recurrent PVCs and that ambulation was being encouraged.

The cystoscopic report on 05/15/88 stated "No evidence of urethral injury; enlarged prostate and prostatic urethra." On 05/16/88, Mr. Doe's vital signs were stable, he was continent, ambulating bed to chair and bathroom, and his suture line was dry and intact. It was noted that he would be followed up in the office. On 05/17/88 patient's vital signs were stable, he was afebrile, without complaint, and doing well. On 05/18/88 he was discharged to home with his wife and daughter. He was ambulating by himself, and arrangements were made with the Visiting Nurses Association for follow up regarding medications, monitoring, and diet instruction.

The Review Process On 07/17/88, the hospital submitted a complete bill for Mr. Doe's care to the Fiscal Intermediary (FI) processing the Medicare claims for this hospital. A week later, the information about the paid claim was forwarded to the PRO's data processor.

On 07/25/88, Mr. Doe's hospitalization was identified for retrospective review by the PRO's random selection process. The PRO notified the hospital's medical records department; the chart was sent for PRO review. On 08/16/88, the PRO nurse reviewer examined the complete medical record. She identified no potential quality issues but did question the medical necessity of hospitalization 05/16/88 and 05/17/88, noting that no acute services were rendered on those days. Therefore, she referred this case to a physician advisor.

The physician advisor reviewed the case on 08/24/88. His feeling was that the patient was stable enough for discharge on 05/16/88 and that payment for 05/16/88 and 05/17/88 should be denied. (Under Medicare, payment is never made for day of discharge.)

The patient's attending physician was notified of the potential denial on 08/26/88 and given until 09/13/88 to provide any additional information that would justify the last two days of the patient's hospital stay. No additional information was provided by the attending. The PA approved a formal denial letter, which was sent on 09/19/88 to the patient with copies to the attending physician, the hospital PRO liaison, and the fiscal intermediary, denying payment for two days.

The chairman of the hospital's Utilization Review Committee notified the PRO on 10/31/88 of a disagreement with the PRO's decision and a request for reconsideration of the denial. The hospital submitted the following information for the days in question:

> 05/16/88 - preparing for discharge
> 05/17/88 - patient very slow to ambulate and to understand instructions

On 11/07/88, the PRO forwarded a copy of the

patient's medical record, its worksheets, and a letter from the UR Chairman of the hospital to a cardiologist for review (reconsideration). On 11/14/88, the reviewing cardiologist (a physician advisor) reported that he would deny only 05/17/88, as in his opinion 05/16/88 was necessary to stabilize the patient. On 11/17/88, a reconsideration notice was issued that partially overturned the initial denial by now approving 05/16/88 for payment.

Mr. Doe received copies of both the original denial and the reconsideration notices as required by Medicare regulations. He was confused by both letters and called the PRO's toll-free number (1-800-492-5811). He spoke to the Outreach Counselor who assured him that the letter meant that the hospital would not be paid for the day in question; however, Mr. Doe did not have to pay anything to Medicare or to the hospital.

1988 Continued Stay Denials

Quarterly data generated by the DFMC indicate that 7.5 percent of reviews completed in 1988 resulted in a continued stay denial with 2.7 percent of reviewed days denied. A *continued stay denial* is one in which only part (one or more days) of an inpatient stay is denied as opposed to an admission denial, which involves a denial of the entire stay.

A summarization of 1988 data on continued stay denials shows that from a total of 53,932 reviews, 623,098 days were reviewed; 4,049 cases (7.50 percent) were denied (cases in which one or more days of admission were denied); and 16,911 days (2.71 percent) were denied. Data were adjusted to reflect overturned/modified denials that occured as a result of the reconsideration process. (In future issues data related to admission denials will be presented.)

Glossary

Continued stay denial - is one where only part of an inpatient stay is denied, as opposed to an admission denial, which involves a denial of the entire stay.

Denial (adverse determination) - Physician or review committee decision that the hospital admission, continued stay, provided services, or procedures performed were medically unnecessary or inappropriate. Denial decisions may or may not affect payment to the hospital depending on waiver status. Only in rare instances does a denial affect charges to the patient or payments to the physician.

Discharge review - A review of the patient's condition and the services he requires during the last 48 hours of hospitalization. This review is to assure that patients are not discharged prematurely.

Fiscal intermediary (FI) - A claims payment agency, typically an insurance company such as Blue Cross/Blue Shield, that contracts with Medicare to provide beneficiary billings.

Nurse reviewer (review coordinator) - An RN with a current Maryland license. Nurse reviewers generally have hospital floor experience as well as Utilization Review (UR) or Quality Assurance (QA) background.

Peer Review Organization (PRO) - Established September 3, 1982, by Public Law 97-248, as part of the Tax Equity and Fiscal Responsibility Act (TEFRA), an entity that either is composed of a substantial number of licensed doctors of medicine or osteopathy practicing in the area or has available to it physicians to perform review of medical services. PROs are organizations under contract with HCFA to provide utilization and quality review of services provided to Medicare beneficiaries.

Physician advisor (PA) - All PAs must be licensed and actively practicing in the State of Maryland. Any PA reviewing a request for reconsideration must be a specialist in the same field as the attending physician. Both board certified and board eligible specialists qualify for review of reconsiderations.

Quality assurance - A process focusing on the quality of care provided under Medicare. This process includes the application of generic quality screens for the purpose of referral to a physician advisor.

Random selection - One review selection mechanism used by each PRO for acute facilities is the random sample, a selection of 3 percent of paid claims, stratified by facility. Selection is by facility so that 3 percent of each facility's claims are selected.

Reconsideration - All parties of an adverse determination are offered an opportunity for reconsideration. Reconsideration must be requested within 60 days of the notification of the adverse determination.

Retrospective review - Review of the medical record after the patient has been discharged. This generally occurs after the hospital bill has been paid by the fiscal intermediary, and the PRO's data processor has been notified that the claim has been paid.

Utilization Review - A process focusing on the necessity of admission and length of stay.

Next in PRO Update . . .

- Case Example of a Confirmed Quality Problem
- Example of a Generic Screen Failure

PRO Update is contributed by the Publications Committee of the Delmarva Foundation for Medical Care, Inc. (Donald Harting MD, MPH, Chairman; Carol Lewis MPH, ScD; Jan Melhunek MHS) in cooperation with the Med-Chi Peer Review Organization (PRO) Monitoring Committee, John Singer MD, Chairman. ■

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Highlights: Executive Committee and Council Actions

Executive Committee - March 16, 1989

Minutes The Executive Committee approved the following minutes as distributed:

Executive Committee Conference Call, February 8, 1989

Executive Committee Meeting, February 16, 1989

House of Delegates Special Session, November 19, 1989

PRO Monitoring Committee Dr. John A. Singer, Chairman of the PRO Committee, presented a summary of the third scope of work involving the designated PRO, the Delmarva Foundation for Medical Care. Of particular concern was the proposed outpatient procedure list and the preadmission/pre-procedure review requirements. Following discussion of the issue, the Executive Committee authorized release of comments developed by the PRO Monitoring Committee objecting to proposed HCFA regulations that would (1) deny Medicare payment for inpatient hospital services that do not meet professionally recognized standards of care and (2) allow written complaints from beneficiaries regarding quality of care.

Blue Cross/Blue Shield of Maryland Notification has been received from Blue Cross/Blue Shield of Maryland that effective April 1, 1989, physicians profiles will be increased by a total of $13.8 million annually and that the base charge period for this increase is the calendar year 1988. Following discussion, the Executive Committee directed that staff seek further clarification as to the extent that the increase incorporates the principles proposed in the Harvard University Resource Based Relative Value Study.

Physician Quality Assurance Board (PQAB)

Conflict of Interest The Executive Committee received for information a letter from the PQAB to the State Ethics Commission asking whether Board members may (1) serve as expert medical witnesses in malpractice or other cases involving medical issues or (2) engage in lobbying activities as to medical issues. This letter did not request and, therefore, the Ethics Commission did not respond specifically to whether a Board member may be an officer in a medical society or a member of the Board of Directors of the medical society. It was suggested that Med Chi notify any appointee to the PQAB of the proper completion of the disclosure form. This form is enclosed with the letter of appointment from the Governor's office.

Fee Complaints It was reported that the PQAB had agreed to send fee complaints to Med Chi for a one year trial period and that criteria for fee reviews is in the process of being developed by the PQAB counsel. Dr. Atkins suggested that it should be made clear to the Faculty membership (perhaps through the *Maryland Medical Journal*) that the Board has decided to send some fee complaints to the Health Advocacy Unit of the State Consumer's Protection Division for purposes of mediation.

AMA Delegate/Alternate Delegate The Executive Committee was informed that one additional AMA delegate and alternate delegate has been allocated to Med Chi and that nominees for these positions would be considered at the 1989 annual meeting of the House of Delegates. Discussion of a request by Dr. John Hebb for an outside parliamentarian to review the seating of the alternate delegates resulted in a motion that staff be directed to seek an unbiased opinion from an experienced parliamentarian. Dr. Bob made a motion, and it was agreed unanimously, that the former parliamentarian of the Maryland Senate, Alan Rifkin, Esq., be the parliamentarian, and that he be requested to review the matter presented by Dr. Hebb.

Mutual Fire Inland and Marine Malpractice Insurance The Executive Committee was informed that Mutual Fire is no longer approved to do business in Maryland because of its insolvency. Since Mutual Fire is a surplus line insurer, it is not covered by the Maryland Property and Casualty Insurance Guaranty Corporation. Following discussion the Executive Committee directed that the component societies be notified of the status of Mutual Fire and that *MMJ* be used to notify the entire membership of the company's insolvency. Staff was also directed to obtain a list of Maryland physicians insured by Mutual Fire.

Governor's Commission on Health Care Costs Following a presentation by Dr. Peter Dans, Chairman, Small Area Practice Variations Committee, the Executive Committee authorized Dr. Dans to brief the Committee on Health Care Costs of the Governor's Commission on Health Care Policy and Financing on the activities of his committee, the effectiveness of practice patterns analysis, and the development of clinical practice standards and protocols as cost containment strategies.

Public Relations Committee

Award for Medical Student Dr. William Cassidy, Chairman, Public Relations Committee, on behalf of the Committee, recommended that an award, in the form of a plaque, be established to recognize the contributions of Maryland medical students to organized medicine. The criteria for qualified nominees would require that the student nominee be a member of Med Chi, chosen by the deans of the three medical schools in Maryland, and with the approval of the President of Med Chi. The President of the student component society would arrange for the award and a representative of Med Chi to be present at each school's graduation ceremony for presentation of the award. The Executive Committee endorsed the recommendation as presented.

Proposed Med Chi Logo Dr. Cassidy presented the proposed logo for Med Chi and explained that the proposed change in the Med Chi was for simplification

to be used on stationery, etc.; however, that the present Med Chi seal would be retained as the official seal. Dr. Nagel suggested that the address and phone number of Med Chi's Annapolis office be included on the stationery. This matter will be forwarded to Council for action.

FAX Project The Executive Committee adopted a motion to endorse the development of a Med Chi FAX network, to recommend to the Council that the Faculty purchase 7 FAX machines for the use of the Executive Committee at a cost of about $9,000, and that the Council authorize the Faculty to make 3-year loans with appropriate interests to any of the component societies that may require such assistance to purchase a FAX machine of their choice in order to participate in the network.

Monthly Financial Report The Executive Committee accepted the monthly financial reports for January and February 1989. A motion by Dr. Bob was adopted by the Executive Committee that the 1989 budget be revised to include costs associated with travel expenses for the additional AMA Delegate and Alternate Delegate (recently allocated by the AMA) for attendance at the 1989 AMA Annual Meeting in Chicago and the Interim Meeting in Hawaii; also, to increase the budget based on Council's approval of the FAX project.

Medical Assistance Program - Prescriptions for Brand Name Drugs Effective March 15, 1989, new regulations of the Maryland Medical Assistance Program will require physicians to write on prescriptions "Brand Medically Necessary" with an explanation as to why a generic equivalent is not medically appropriate. The Executive Committee, after discussion, adopted a motion by Dr. Bob that the draft letter to Adele Wilzack be endorsed and that Gerry Evans carry the message to the legislature that such a regulation is against the community's standard of care.

Committee on AIDS The Executive Committee voted to table the request of the Committee on AIDS for a $250 donation to an AIDS education program geared to educate inner city, middle school-aged children about the transmission of AIDS. The Executive Committee voted to table the issue until additional information can be obtained on the scope of the program and how it will be implemented and administered.

Maryland Medical Journal The Executive Committee voted to accept and forward to Council a mission statement and objectives of *MMJ* as submitted by the Editorial Board.

Committee on Scientific Activity Dr. Atkins reported on discussions within the Committee on Scientific Activity regarding proposed changes in the times and structures of the Med Chi Annual and Semiannual Meetings. The Executive Committee recommended that the Committee on Scientific Activity be encouraged to continue its discussions regarding a new format for the meetings, proceed with a three-day meeting for the year 1990, consider changing the meetings to a Thursday, Friday, and Saturday setting and explore the possibility of holding multiple one-day meetings around Maryland.

Mammography Screening Study The Executive Committee received as information a proposal of Blue Cross and Blue Shield of Maryland to conduct a mammography pilot study and educational program to examine the factors that determine women's access to and use of regular mammogram screenings. Blue Cross/Blue Shield will contribute $50,000 to the study, which will be conducted in conjunction with the American Cancer Society.

AIDS Survey The Executive Committee endorsed a survey of Maryland physicians to be conducted by the AIDS Administration of the DHMH in an effort to obtain information regarding their concerns and knowledge regarding AIDS and HIV-related problems. The results of the survey will be shared with Med Chi.

Legislative Report Gerry Evans provided an update on legislative activities.

Council - March 23, 1989

Minutes The minutes of the Council and Executive Committee were acted upon as follows:

Minutes approved: Council meeting of January 28, 1989

Special Council meeting of February 16, 1989

Minutes accepted: Executive Committee meeting, January 19, 1989

Executive Committee Conference Call, February 8, 1989

Executive Committee meeting, February 16, 1989

Peer Review Handbook Dr. Emidio Bianco, Chairman of the Peer Review Committee, addressed the Council and asked for Council endorsement of the final draft of the Peer Review Handbook. Drs. Nakazawa and Yosuico offered congratulations to Dr. Bianco and his committee as well as to all who were involved in producing the handbook to which the Council responded with a round of applause. The Council then voted to endorse the Peer Review Handbook as presented. A copy will be sent to the Board of Physician Quality Assurance Board for review and implementation into regulations.

Emeritus Membership The following members were approved for Emeritus Membership as requested by the component society indicated:

Anne Arundel County

Christine Kim MD, Annapolis
Clayton Norton MD, Severna Park

Baltimore City

Charles E. Ellicott MD, Baltimore
Edward L. Glassman MD, Baltimore
Edmund B. Middleton MD, Towson
Ernest Scher MD, Baltimore

Alan C. Woods, Jr., MD, Baltimore

Baltimore County

Leonard C. Akman MD, Baltimore

Frederick County

Gerald Schipper MD, Frederick

Montgomery County

William H. Ferguson MD, Rockville

James A. Roberts MD, Silver Spring

Prince George's County

Leroy E. Hoeck MD, Tantallon

Wicomico County

Raymond Collado MD,Pembroke Pines, FL

Affiliate

James H. Nelson MD, Escondido, CA

The above names will be presented to the House of Delegates on April 12, 1989 for approval.

Dues Waiver The Executive Committee approved the following physicians for 1989 dues waiver at the request of the component society indicated:

Baltimore City

Janet H. Greenhut MD, Baltimore

Richard A. Sindler MD, Towson

William Korman MD, Baltimore

Montgomery County

Howard N. Bernstein MD, Rockville

T. James Waters MD, Chevy Chase

St. Mary's County

G. Josephine Garner MD, Leonardtown

Committee on Scientific Activity Dr. Gary Rosenberg, Chairman of the Committee on Scientific Activity, stated that there was a need to look at new formats for the annual and semiannual meetings due to the unavailability of suitable sites in Maryland, and requested input from the Council members. He also reported that, at this time, a site for the 1990 annual meeting has not been selected, but there was a possibility that Turf Valley Hotel and Country Club could be used for the meeting, provided this year's meeting is successful. The Committee will continue to explore alternatives.

Monthly Financial Reports On motion of Dr. Yosuico, the Council accepted the financial reports for the months of January and February 1989 as presented.

Continuing Medical Education Review Committee Dr. Yosuico, Chairman of the Ad Hoc Committee appointed by the Council to study the question of remuneration to members of the CMER Committee for site surveys conducted by its members reported that it was the recommendation of the ad hoc committee that remuneration should not be provided to members of the CMER committee, based on the fact that no other committee of the Faculty received payment for their services. The Council adopted the recommendation of the ad hoc committee, and restated its position that members of this committee not be paid for services rendered.

Maryland Medical Journal The mission statement and objectives of the *Maryland Medical Journal* were adopted by the Council as Faculty policy. It was pointed out that this does not replace any other policies or mission of *MMJ*. The mission statement and objectives as approved are:

Mission Statement of the *Maryland Medical Journal*

The purpose of *MMJ* is to provide a forum for open and responsible discussion of matters relevant to the field of medicine; to educate and inform its readers of progress in other fields of interest to physicians; and to promote the science and art of medicine toward the betterment of public health.

Objectives of the *Maryland Medical Journal*

1. To publish definitive, peer-reviewed clinical and investigative reports that are representative of the major medical disciplines.
2. To provide physicians with continuing education in basic sciences and research in order to support informed clinical decisions.
3. To forecast important issues and trends in medicine.
4. To foster responsible debate on controversial issues that affect medicine.
5. To enable physicians to remain informed in every aspect of medicine, including developments in fields other than their own.
6. To inform readers about nonclinical aspects of medicine, including the political, philosophic, ethical, legal, social, economic, historical, and cultural.
7. To improve the public health worldwide by elevating the standards of medical care and disease prevention provided by an informed readership.
8. To achieve the highest level of medical journalism and to be enjoyable to read.
9. To inform readers of policies and actions of the Medical and Chirurgical Faculty, its Council, and House of Delegates as appropriate.
10. To encourage component medical societies to submit to the *Journal* items of local interest, including projects under consideration, programs for enhancing the image of medicine within their component societies, as well as changes in their leadership, officers, etc.

President's Regional Meetings Dr. Dobridge reported on the regional meetings held with the Western Maryland and Eastern Shore physicians and announced that a meeting was planned in southern Maryland, March 29, 1989, in Waldorf, Maryland.

AMA Delegate/Alternate Delegate It was reported to the Council that due to Med Chi's increased membership in the AMA, Maryland has been granted an additional delegate and alternate delegate to the AMA. This increases the Faculty's representation to the AMA to 7 Delegates and 7 Alternates. The Council was also informed that the Executive Committee at its meeting on March 16, 1989, in response to a inquiry from a member, authorized the staff to seek an outside parliamentary review of the action taken by Council on January 28 relative to filling vacancies within the AMA Delegation.

Mutual Fire Inland and Marine Malpractice Insurance The Council was informed that Mutual Fire had become insolvent and was no longer approved to do business in Maryland. The component and specialty societies have been notified and have been asked to canvass their membership to determine if any of their members are insured by Mutual Fire for medical liability and, if so, to advise them to contact Med Chi,

and Med Chi will keep them apprised of the reorganization plan of Mutual Fire.

Medicaid Diversion Plan Dr. Herman Maganzini, Co-Chairman of the Public Health Committee, presented the recommendations of the Liaison Committee with the Department of Health and Mental Hygiene concerning proposed regulations of the Medical Assistance Program to divert Medical Assistance beneficiaries from hospital emergency departments and hospital outpatient clinics. Following a lengthy discussion, the Council adopted a motion to approve Recommendations #1 as stated and Recommendation #5, as amended. The recommendations, as adopted, are as follows:

> Recommendation #1: That the Council reaffirm its position that fees for Medicaid visits be standardized for the private physician, emergency department, outpatient clinic, and hospital clinic, etc. All providers of professional medical care irrespective of the setting in which the medical care is provided, should be reimbursed at the same level so as to encourage the provision of primary care in the private office setting, thereby enhancing continuity of care.
> Recommendation #5: That Med Chi continue its support of Emergency Medicine physicians with respect to inherent professional liability in the Medicaid Diversion proposal and with regard to a conflict in the federal law about access to care and transfer of patients.

Council also adopted a motion by Dr. Lewers that it is the position of Med Chi and the Council (1) that we recognize the need for cost control within the Medicaid Program, not only in Maryland but in the entire country; and (2) that we oppose the Medicaid Diversion Program as currently established by the Department of Health and Mental Hygiene on the grounds of issues pointed out, and that we are willing to work with the Department in establishing a program, and that this program is premature.

Public Relations Committee Dr. William Cassidy, Chairman of the Public Relations Committee, presented the committee's proposal to change the title and logo of Med Chi. After review and discussion of the packet of stationery distributed, Council voted to approve items 1, 4, and 6 of the stationery packet distributed, with the following modifications:

(a) retain the traditional Med Chi seal to be placed to the left side of the stationery;

(b) change Maryland State Medical Association to Maryland State Medical Society shown on the bottom of the stationery.

Brand Name Prescriptions - Medical Assistance Program The Medical Assistance Program has been notified that effective March 15, 1989, new regulations will require physicians to write on the prescriptions of medical assistance recipients the words "Brand Medically Necessary" with an explanation as to why a generic equivalent is not medically appropriate. Following discussion, the Council approved a draft letter from Med Chi to the Secretary of Health and Mental Hygiene, urging withdrawal of this requirement.

FAX Project Council approved the purchase of 7 FAX machines for use by the Executive Committee at a cost of approximately $9,000, to be provided to the members on a loan basis. A second motion was adopted to provide FAX machines to those component medical societies having no access to a FAX, with the machines being purchased by Med Chi with an arrangement for payback by the component societies on a 3-year loan basis.

Maryland Physicians Care Program Council adopted the Maryland Physicians Care Program initiated by Dr. Antilitz. This program, modeled after the Kentucky care for the poor project, will be coordinated with the various organizations required to implement the program.

PRO Monitoring Committee Dr. John Singer, Chairman of the PRO Monitoring Committee, presented Council with a summary of the third scope of work involving the designated PRO, the Delmarva Foundation for Medical Care. It was the consensus of the Council that insufficient notice had been provided concerning the implementation of the preprocedure review requirements, which will have the potential to negatively affect the quality of care. The Council, after a lengthy discussion, adopted a motion to instruct the Faculty's legal counsel to look into implementing injunctive relief against Delmarva based on insufficient notice of implementation of the third scope of work, as well as the implementation on the potential impact of quality of care.

Legislative Update Drs. Leonard Lichtenfeld, Susan Guarnieri, Israel Weiner, co-chairpersons of the Legislative Committee, and Gerry Evans presented an update on legislative activities. ■

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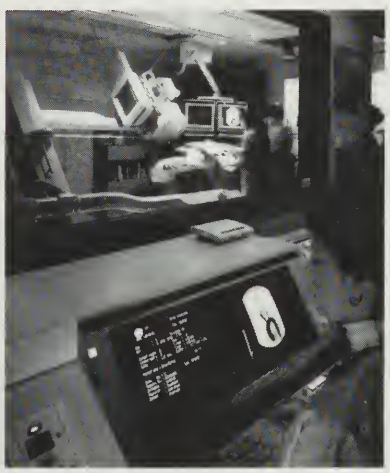
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The computer is an electronic device that reads data (input), processes it (process), and reports information (output). It is used for a variety of tasks. Businesses use them for such jobs as word processing, accounting applications, inventory control, maintaining personnel information, and forecasting sales, costs, and profits. Scientists and engineers use computers for problem solving and simulations of experiments. Educators use computers as tutorial devices.

When talking about computers we can divide the discussion into two parts, hardware and software. The physical parts of a computer system are considered the hardware. In general, hardware includes the computer itself, the monitor, the modem, the printer and the graphics card. Instructions given to computer are called software. Instructions grouped together are referred to as a program. A program is a set of related instructions that process data and produce a specified result..

Hardware

The hardware for a computing system normally is composed of the following parts: input devices, a central processing unit, memory, auxiliary storage, and output devices.

Input - An input device is used to enter commands, instructions, and data into the computer. There are many types of input devices including a keyboard, mouse, digitizer, optical scanner, light pen, magnetic disk and tape, and sensor devices like the types used in security systems and computer-controlled heating systems.

Central Processing - The central processing unit (CPU) functions as the brains of the computer. The processing of all instructions occurs in the CPU. The CPU consists of a control unit and an arithmetic and logic unit. The control unit carries out instructions to route data and instructions to and from memory and to and from auxiliary storage. The control unit also accepts instructions, commands, and/or data from the input device and sends information to the output device.

The arithmetic and logic unit (ALU) does arithmetic calculations and compares values. The comparison of values is done by logical operations, which include the mathematical relationships of less than, greater than, and equality.

Memory - The memory of a computer is referred to as main memory, primary storage, or random access memory (RAM). Instructions and data are stored in RAM before they are processed. RAM is measured by the number of characters that can be stored in the memory of the computer. Each letter, digit, or symbol on the keyboard takes up one byte in memory. One byte is a set of 8 bits that represent a decimal number in binary code. Binary code is the decimal value for keyboard characters represented in the base two number system. Each bit (binary digit) is a binary 0 or 1. When you press a key on the keyboard an 8-bit code representing the key pressed is sent from the keyboard to the CPU.

A kilobyte is 1024 bytes or 1K. In order to simplify calculations, 1K is usually approximated as 1000 bytes. The size of the IBM personal computer system memory ranges from 512K bytes to four megabytes (4M or approximately 4,000,000 bytes) or more. RAM chips is the term given to the memory chips that make up main memory. Each chip normally holds eith 64K or 256K bytes.

Another type of computer memory is Read Only Memory (ROM). ROM contains information permanently stored on the ROM chips. ROM is supplied by the computer manufacturer and cannot be changed by the user. This type of memory is nonvolatile, that is, it retains the information when the power is cut off. ROM is considered hardware, but the *instructions* in ROM are considered software.

Auxiliary Storage - Since it is not possible to keep all the software and data that one might ever use in RAM, more permanent storage is necessary. Secondary storage or auxiliary storage is nonvolatile. Without nonvolatile secondary storage, you would have to reenter the instructions and data each time you restarted your computer, a very arduous task! Since power supplies are not always dependable, wise users frequently copy to secondary storage whatever they are inputting into the computer. This precaution prevents them from having to reenter the entire set of information again.

- Magnetic floppy disks are a very popular form of auxiliary storage. The two most common sizes of floppy disks are the 5 ¼" and 3 ½".
- Another popular form of auxiliary storage is the hard disk or fixed disk. A hard disk is usually divided into subdirectories with each different application placed in its own subdirectory.
- Magnetic tape can also be used for auxiliary storage. It is very popular as a backup device for hard disk systems.

Since 5 ¼" floppies can be damaged very easily, they should be handled with care. The disks should be kept away from magnetic fields, heat, cold, dust, and moisture. Disks should be stored in a vertical position so that there is no pressure exerted on them and users should take care not to touch the exposed magnetic surface. Copies (backups) of important disks should be made so the information on them will not be lost.

Output - The purpose of using a computer is to produce some type of output for the user. The information produced by the computer must be sent by the CPU to some type of output device. The most common forms of output devices are the display screen or monitor and the printer. Output that is sent to the

printer is referred to as hard copy while output sent to the screen is called soft copy.

Software

The instructions that cause the hardware parts to work together to produce some result are referred to as software. The two categories of software are the *system software* and *applications software*. System software includes the Disk Operating System (DOS), compilers, interpreters, and utilities. Application software includes programs such as accounting packages, data base programs, and word processing programs.

The DOS is a collection of programs to manage the operation of the computer. Both the DOS and the hardware are mandatory for operation of your computer systems. You cannot use one without the other. Different computers may use different operating systems.

When the computer is turned on some instructions from DOS are loaded into RAM. These instructions allow the computer to function. They include directions for keeping track of all the programs and data that are available in the auxiliary storage and many utility programs, such as disk formatting programs and disk checking programs.

To get a better idea of how hardware and software interact, look at the following example. Suppose you are operating the computer in a business and your supervisor asks you to find the current status of an order. You and the computer would preform the following.

Step 1. Using the keyboard (input), you would give the command to load the appropriate program into RAM and execute it.

Step 2. Instructions from DOS would direct the computer to locate the program in auxiliary storage, move it into main memory, and then the CPU would start to execute the program instructions (processing).

Step 3. The CPU, with help from DOS, would send a message (one of the instructions) to the screen (output) asking for the order number.

Step 4. You would enter the order number (input).

Step 5. The CPU, again with help from DOS, would locate the order information from auxiliary storage and transfer it to memory (processing).

Step 6. Once the information is found, the CPU and DOS transfer the order information to the screen (output).

Programming Languages

Programming languages are system software. Many different languages have been designed to solve different programming applications. The programmer should choose the language that best fits the application.

High level languages are those languages that are not machine dependent. Programs written in high level languages can sometimes be transported from one type of computer to another with little or no modification. Their statements are Englishlike in form. Some of the higher level programming languages and their applications are as follows.

Business	COBOL, RPG
Science, Mathematics & Engineering	FORTRAN
Artificial Intelligence	LISP, PROLOG
General purpose	BASIC, C, PASCAL, CLIPPER

The set of instructions that make up a program are called code. When instructions are written in a high level language they are referred to as source code. Source code is close enough to human language to be easy for a programmer to read and understand. Because the CPU can only understand machine language or object code, a translator program must be run to translate source code into object code. Object code or machine language is the lowest level language. It is machine dependent, which means that different computers usually have different machine language code. Assembly language is also machine dependent, although it is a step above machine language.

Interpreters - An interpreter executes one instruction of a program at a time. Each time an instruction is executed, the system converts the source code into machine language instructions, called object code, so that the computer can perform the necessary tasks. This process can be an extremely redundant one; programs that are executed many times must be translated to machine language each time.

Compilers - A compiler first translates the entire program to machine language. If any errors are encountered, a complete listing of each error and the incorrect statement is given to the programmer. The errors are corrected and the program compiled over again. When no errors are detected, the compiled code can be executed. The machine language version can then be saved separately so that compiling need not be done again unless the original program is changed. Compiled programs run much faster than interpreted ones.

Summary

A **computer** is an electronic device that reads and processes data and then writes information.

A **computer system** is composed of both hardware and software.

Hardware includes input devices, the CPU, main memory, auxiliary storage, and output devices.

1. Input devices include the keyboard, mouse, digitizer, optical scanners, light pens, and sensor devices.
2. The CPU is composed of the control unit and the ALU.
3. Main memory is made of RAM and ROM. RAM is volatile, ROM is nonvolatile.

4. Magnetic disks and tape are forms of auxiliary storage. Auxiliary storage is nonvolatile.
5. Output devices include the screen, printer, plotter, magnetic disk and tape, and voice.

Hard copy is output sent to the printer; **soft copy** is output sent to the screen.

Software refers to system software and applications software.

System software contains DOS, programming languages, and utilities.

DOS is a system supervisor or manager.

Programs are sets of related instructions. Programs can be written in high level or low level languages.

High level languages are not machine dependent. The code of a high level language is referred to as source code.

Machine language is a low level language and is machine dependent. The code of low level languages is called object code. Object code is also called machine language.

Interpreters and **compilers** are two types of translator programs.

Translator programs convert source code into object code.

Compilers translate the entire source code into object code and then executes the machine language instructions.

Interpreters translate one source statement into machine language and then executes that instruction before going on to the next.

Address questions to Bruno Matiello, Director of Computer Services, 1211 Cathedral St., Baltimore, MD 21201. (Please include your phone number.)

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LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state. The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and policies Governing the Practice of Medicine in Maryland.

■ ■ ■

The following revised policy opinions of the Faculty were adopted by the Council at the Annual Meeting on April 12, 1989:

Revised Policy Opinions

Discrimination

(a) In this section, discrimination means unfair prejudgment due to group identification or affiliation including, but not limited to, discrimination based on race, color, religion, creed, ethnic origin, or sexual orientation.

(b) The Faculty endorses Principle 6 of the AMA's Principles of Medical Ethics, which provides: A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

(c) However, the Faculty deplores discrimination particularly within medical societies, component societies, and medical staffs.

(d) The Faculty also strongly deplores the selection of patients solely upon the basis of the patient's ability to pay. Examples of this category of patients are Medicare and Medicaid patients.

Return to Work Statement

(a) Return to work statements may contain the diagnosis determined by the physician. It is suggested that physicians not indicate such diagnoses unless permission has been given by the patient.

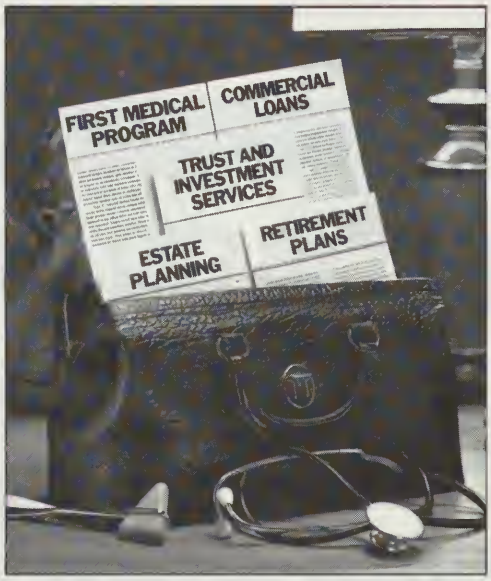
(b) Return to work statements that are prepared by a physician can be, on occasion, signed by the physician's secretary or nurse on behalf of the physician provided that permission has been given by the physician to his/her employee to do so for a particular patient or occurrence.

(c) Frequently, physicians complete absence-from-work statements in advance of the date the patient should return to work. Such a statement should contain the date of issuance and a specified date by which full recovery is anticipated. ■

Medicolegal Hotline for Any Emergency

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	Philip A. Dales III Esq	301-699-5800
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Advances in Surgical Management of Testicular Cancer

Testicular cancer serves as a model for laboratory, clinical and surgical investigations as well as a unique model for embryogenesis and oncogenesis. The recent advances in the understanding of its natural history, availability of tumor markers, newer regimen of chemotherapy, and meticulous regional lymphadenectomy have rendered stage I and II nonseminomatous testicular cancer a curable disease.

The conventional retroperitoneal lymphadenectomy has produced a high incidence of dry ejaculation with consequent infertility in patients undergoing this operation. Since testicular cancer mostly occurs in young men at the prime of their lives, fertility and fathering is usually an important consideration.

The newer technique of retroperitioneal lymphadenectomy is based on preserving the sympathetic trunks responsible for innveration of the ejaculatory mechanism. It has also proved to be adequate cancer surgery with rewarding survival in stage I, II, and in postchemotherapy period when there is persistent residual tumor. The technique we have developed is a modification of the conventional retroperitoneal lymphadenectomy.[1] Through a midline incision, retroperitoneal lymph nodes and the great vessels are exposed. A Knocker maneuver of the duodenum exposes the right renal pedicle. After ligation of the inferior mesenteric vein and the left spermatic veins, the left renal pedicle is also exposed. The inferior vena cava (IVC) and the aorta are exposed by excising the posterior peritoneum from the of Treitz to the ileocecal area. Dissection begins at the level of the renal pedicles over the IVC. The lymphatics surrounding these vessels are gently dissected without injury to the sympathetic trunks (Figure). The area of dissection should encompass the caval, aortal aortocaval, and the left renal pedicle lymph nodes. The left sympathetic trunk along the aorta is preserved. The branches of the sympathetic trunks below the major vessels also are preserved. The ipsilateral spermatic vein is removed. This dissection should start from the origin of the vein to the ipsilateral inguinal caval including the stump of the vein from the previous inquinal orchiectomy.

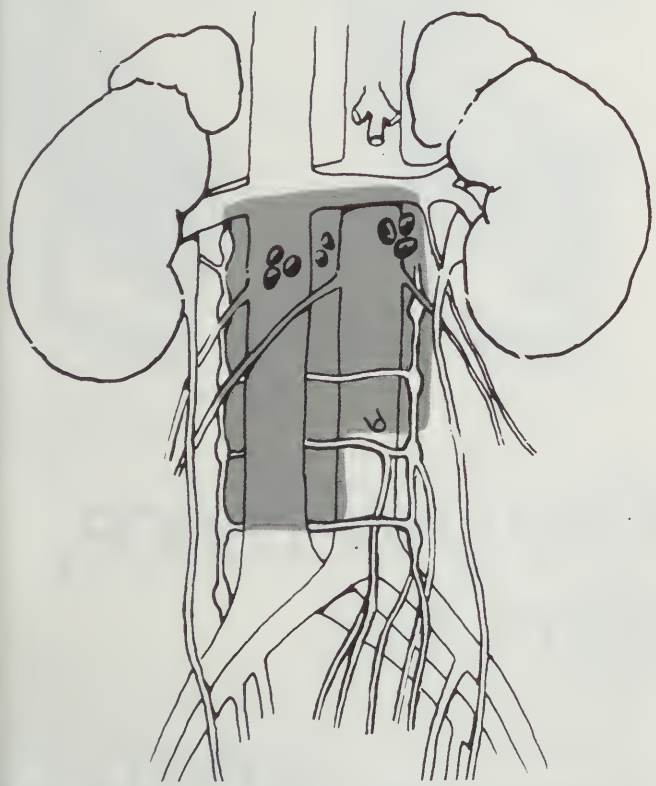


Figure. Demonstrates the extent of dissection and preservation of both sympathetic trunks and their branches.

Follow-up of these patients includes monthly physical examination, chest x-ray, determination of serum alphafetoprotein and human chorionic gonadotropin the first year, every three months into the second year, and once each year thereafter.

In the past several years, we have performed this procedure in 52 patients with low-stage nonseminomatous testicular cancer (NSTC) with only 2 initial failures.

Currently, we believe that a nerve-sparing retroperitoneal lymphadenectomy has therapeutic and prognostic value and will guide the clinician in assessing a need for further treatment.

Future efforts should focus on finding more sensitive, specific, noninvasive means to reach the accuracy of pathology staging.

Reference

1. Javadpour N. Nerve sparing retroperitoneal lymphadenectomy in clinical stage I, stage II and after chemotherapy in stage III nonseminomatous testicular cancer. In N. Javadpour and G.P. Murphy (eds.), Advances in Urologic Oncology. New York, NY: Alan R. Liss, Inc., 1988:53.

NASSAR JAVADPOUR MD
Professor of Urology
Director, Urologic Oncology
Department of Surgery
University of Maryland

Tumor conferences are held weekly on Tuesday between 8 and 9 a.m. in Room N13E28 at the University of Maryland Medical System. Physicians are welcome to attend this open meeting and to present cases and pathological slides. Call the number below by noon Monday to be placed on the schedule.

Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, MD 21201 (301-328-5224). ■

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Pharmaceutical Perspectives

Drug Safety Monitoring

Marjorie C. Allan MD, MPH

Dr. Allan is Senior Research Physician, Glaxo Inc.

Every ethical pharmaceutical manufacturer maintains a record of the adverse medical events reported in association with the use of their products. This data includes the worldwide experience during product development as well as after the product is marketed and for as long as the product is on the market. This unique body of information forms the basis for the response to your inquiries about a specific clinical problem.

Drug development is a lengthy process. Five to ten years may elapse between the time a drug is first tested in humans, is proved to be sage and efficacious, and finally is approved by the Food and Drug Administration. Many products are marketed in Europe or Asia prior to United States approval. Information from this experience is regularly collected by the manufacturer and included in the application for drug licensing.

The requirements for US licensing are based on monitored, randomized, double-blind clinical trials using carefully selected patients. This involves only 1,000 to 2,000 persons. The common adverse events are usually detected under these conditions. These are described in the product information under the Adverse Events section and occasionally in the Warnings or Precautions sections.

The product information is printed in the Physician's Desk Reference, at the expense of the manufacturer. Product information for the professional is included in every container of the product. Finally, a brief version is printed with every advertisement for the product. Although abbreviated, these summaries contain all the adverse event information.

When the product is marketed, the prescribing practices and patient usage are no longer carefully controlled. The number of users is greatly increased. At this time, the events that occur rarely, for example, 1/10,000 will be detected.

The detection of rare and serious adverse events requires the cooperation of the practicing physician and the pharmaceutical industry. This is particularly true as sophisticated products are developed for complex medical conditions. Complete information, hospital records, and pathology specimens may be required.

Even then, a single report may not be conclusive. A series of such reports, however, will cause the manufacturer to alert the medical professional through a product labeling change. This labeling change should be announced by a letter from the manufacturer or by the sales representative.

At any point between the detection of the first report of a new adverse event and notification of the medical community, the manufacturer maintains the case reports in the corporate records. These records include international reports, any report that may be a part of the spectrum of the new condition, and any serious reports known with the specific product. Every report is entered and subsequently reported to the Food and Drug Administration regardless of how sparse that data may be or how trivial the event. Reports with complete data are more helpful. Each FDA submission retains the words of the reporter without interpretation.

Case reports are kept in locked files to maintain patient confidentiality and reporter anonymity. Both the manufacturer and the FDA are pledged to protect professional confidence.

Physicians in the pharmaceutical industry are maintaining, for the benefit of their colleagues in medical practice and for the industry, a record of all adverse drug experiences reported worldwide on marketed products. If you have a concern about a drug, please telephone. Be prepared to describe your experience and to obtain information about similar cases from the manufacturer.

Drug safety monitoring is a professional service available for your benefit from physicians in the pharmaceutical industry. ■

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One Minute With Diabetes

The Diabetic Runner

Doctor, how can an insulin-dependent diabetic patient prepare for a 10K race?

In a race the symptoms of hypoglycemia may not be noticed because runners get a high that makes breakthrough of symptoms difficult to differentiate between hypoglycemia and normal response to exercise. Preparation should consist of running training races similar to a 10K race. Self-monitoring of blood glucose should be done before, at the halfway point, and at the end of the trial or trials.

One should consume extra carbohydrates before the race, for example, gatorade or the like, approximately 135 gm for one hour of strenuous exercise. If orange juice is used, the fluid volume to approximate 135 gm of carbohydrates would be 54 ounces. This amount would approach fluid overload if given all at one time. Therefore it should be divided between start, midpoint, and end of the race. When fruits are used instead of juices, utilization will be slower and probably the blood glucose level more easily managed.

An alternative method is to reduce prerace insulin dose, the amount to be determined by training run results: possibly 10 units. The injection site varies with type of exercise. In running, abdominal injection would be preferable. Injection in the thigh would result in an increased rate of utilization due to the exercise of the site. The blood glucose should be checked 10 to 30 minutes before race and aim for 120-150 mg/dl. (Blood glucose usually drops with exercise if initial test result is less than 350-400 mg/dl.)

Exercise Do and Don'ts

Don't exercise if diabetes is under poor control

Don't change insulin or carbohydrates without monitoring blood glucose

Don't exercise if you have complications that would contraindicate it (for example, heart disease, infected foot, etc.)

Do be careful in choosing carbohydrates to be used before the exercise; bread and fruit are more slowly absorbed than are juices

Exercise in NIDDM Patient

"Diet only" patients need no change from that of a normal individual.

Oral agents plus diet. You may need less carbohydrates to prevent exercise-related hypoglycemia.

De WITT E. DeLAWTER MD
Editor ■

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Estrogen Replacement Therapy: Risk /Benefit Ratio for Treatment

Gerald A. Glowacki MD

Dr. Glowacki is Chairman, Department of Obstetrics and Gynecology, Franklin Square Hospital Center, and Assistant Professor, Department of Obstetrics and Gynecology, The Johns Hopkins Hospital, Baltimore.

With very few exceptions, the vast majority of post menopausal women are candidates for estrogen replacement therapy.

Although osteoporosis was first described in 1941, researchers have yet to adequately define the mechanisms responsible for this bone-depleting malady. At present, there are no known biochemical abnormalities associated with the development of osteoporosis. In fact, while most investigators agree that osteoporotic bone is reduced in quantity, the bone itself is essentially normal in chemical composition.

There are, however, a number of drugs as well as endocrine, dietary, and malabsorptive syndromes that are associated with osteoporosis. Corticosteroids, cytotoxic agents, and heparin have been demonstrated as causing bone mineral loss. Hyperthyroidism, primary hyperparathyroidism, and Cushing's syndrome are causative endocrine diseases, while alcoholism, smoking, vitamin C deficiency, and upper gastrointestinal tract surgery (gastric stapling) are among the dietary and malabsorptive factors associated with osteoporosis. In addition, chronic renal failure, vitamin D deficiency, rheumatoid arthritis, and immobilization and weightlessness are additional factors.

Prevalence of Osteoporosis and Related Fractures

In both sexes, peak bone mass is reached at about age 35, at which point either a plateau is maintained or a downward slope begins. The subsequent development of osteoporosis, however, is much more common in women than in men. For example, symptomatic spinal osteoporosis is about 4 times as common in women as in men, while hip fractures are about 2.4 times as common.

In a study of the prevalence rates of osteoporosis in Michigan women over the age of 45, investigators found that between the ages of 45 and 49 approximately 18 percent of these women had osteoporosis.[1] Between ages 50 and 75, there was an additional 15 to 20 percent incidence of osteoporosis detected per five-year period. Finally, by age 75, 90 percent of these women had significant osteoporosis.

This increasing rate of osteoporosis translates into a significant number of fractures among both men and women. That is, 80

percent of all hip fracture patients have preexisting osteoporosis. The risk of hip fracture is at least 20 percent by age 90. It is important to note that one-sixth of these patients will die within three months of the fracture. In the United States, it is estimated that over 120,000 hip fractures occur in elderly women each year. The cost of treating these fractures, which are thought to result in 50,000 deaths per year, exceeds $2 billion annually.

In addition to hip fracture, approximately 25 percent of all white women over age 60 have spinal compression fractures due to osteoporosis, and up to 50 percent of women will develop vertebral fractures by age 75. After age 45, there is a marked increase in the incidence of distal forearm fractures, and by age 60, there are 10 times more forearm fractures in women than in men of comparable age.

Diagnosis of Osteoporosis

Osteoporosis can be divided into two diagnostic categories, postmenopausal (type I) and senile (type II). The onset of postmenopausal or type I osteoporosis most often correlates with menopause or castration.[2,3] It affects trabecular bone more significantly than cortical bone and, therefore, the main site of fracture is often the vertebrae. The primary cause of fracture is related to estrogen deficiency as well as to the decreases in calcium absorption and parathyroid function.

In senile (type II) osteoporosis, the age of onset is generally 65 and older. Overall in senile osteoporosis there is a 2:1 female-to-male ratio of fractures and, as opposed to type I osteoporosis, trabecular and cortical bone are lost in equal amounts. The main sites of fracture are hips and other long bones, although causative factors other than aging have not yet been delineated. Calcium absorption, which is associated with an increase in parathyroid function, is decreased in senile osteoporosis. It should be noted that dietary calcium supplementation has been associated with decreased bone loss in this type of osteoporosis.

Diagnostic Techniques A variety of noninvasive techniques have been used for the measurement of bone mass.[4] These include plain radiographs, quantitative radiographs, single and dual photon absorptiometry, computed tomography, and neutron activation analysis:

1. Plain radiographs are not sufficiently sensitive to determine osteoporosis until at least 65 percent of bone mass is lost. Diagnostic applications, therefore, are limited.

2. Quantitative radiography was among the methods first used to quantify bone density. This technique uses a step wedge aluminum equivalent and measures the third metacarpal bone mass.

3. Newer techniques, including single and dual photon absorptiometry, are now being used. Both single and dual photon absorptiometers measure trabecular and cortical bone but are unable to differentiate the mineral loss of these two entities. Single photon absorptiometry is used to measure radius, ulna, patella, or os calcis for bone density. However, a reliable quantitative relationship between bone density of these structures and fracture risk rates has not yet been established. On the other hand, dual photon absorptiometry, measuring lumbar spine, femoral neck, and trochanter, has demonstrated an excellent quantitative relationship between bone mineral content and fracture rate in the structures measured. Both single and dual photon absorptiometry deliver less than 10 mrem of radiation. The average cost of a single photon absorptiometry study is about $125, while a dual photon study, including spine and femoral head, ranges in cost from $125 to $250.

4. Computed tomography with either single or dual energy sources affords excellent evaluation of bone mineral density of both cortical and trabecular bone, and the quantitative relationship between bone mineral density and risk ratio for fractures is excellent. Computed tomography does require higher levels of irradiation (between 250 and 500 mrem), and cost of the procedure is generally in the range of $250.

5. Neutron activation analysis affords excellent bone mineral density measurements in both cortical and trabecular bone of all skeletal sites. It requires high levels of irradiation, between 150 and 2000 mrem and, hence, is used primarily in research.

Estrogen Production and Replacement Therapy

Estrogen Production In the premenopausal woman, the ovary is the primary site of estrogen production in the form of estradiol, while in the postmenopausal woman, very little or no estradiol production occurs in the ovary. Estrogen is also produced via the adrenal, which manufactures adrenostenedione, the primary precursor of estrogen. The conversion of androstenedione to estrogen then occurs in many tissues including skin, fat, and muscle.

There is a significant correlation between postmenopausal estrogen production and body weight. Postmenopausal women who are 25 percent above ideal weight generally produce significant levels of estrogen. This reduces the risk of osteoporosis in these individuals, while it simultaneously increases their risk of endometrial cancer. Bone mineral studies on a biannual basis in the obese postmenopausal woman may obviate the necessity of exogenous estrogen replacement. If adequate endogenous estrogen production is confirmed by these studies, periodic progestational challenge therapy to the endometrium is warranted.[5]

Estrogen Replacement Therapy Almost since the discovery of osteoporosis, estrogen therapy has been used in its treatment. Some of the earliest published reports used the simple technique of measuring height in postmenopausal women. That is, the estrogen-treated group maintained height, while controls lost an average of 2.5 inches in height over a 15-year period.

Recent studies delineating the role of estrogen in osteoporosis have shown that women who become amenorrheic due to anorexia have significant bone mineral loss as a result of decreased estrogen production.

A number of important studies have clearly defined the role of estrogen replacement therapy in the treatment of osteoporosis. Nordin and colleagues published a linear study of postmenopausal women treated with various combinations of agents including estrogen alone, estrogen plus 1 alpha vitamin D, calcium, vitamin D plus calcium, 1 alpha vitamin D, and vitamin D alone.[6] Mean metacarpal cortical bone density was used as the determinant of therapeutic efficacy. Only estrogen and estrogen-containing regimens maintained or augmented the mean metacarpal cortical bone mass.

Lindsay and colleagues have been responsible for some of the most significant studies of the long-term prevention of postmenopausal osteoporosis by estrogen therapy. In the first study, they reported on the measurement of metacarpal mineral change on an annual basis in women receiving either mestranol (a 3-methyl ester of ethinyl estradiol) or placebo, starting two months, three years, or six years after oophorectomy.[7] In all three groups, a significant decrease in metacarpal mineral density was noted at the beginning of the study. In the mestranol-treated patients two months and three years post-oophorectomy, metacarpal density was either maintained or augmented. However, in those patients six years post-oophorectomy, bone mineral density was not significantly different in the mestranol-treated group than in the control group. This has lead to an important speculation: major biochemical and/or structural defects may occur in bone that are not reversed with estrogen therapy if postmenopausal osteoporosis is not treated within six years of menopause or castration. The investigators then withheld estrogen therapy in a group of these women and followed them over an additional four years.[8] In the women in whom the mestranol therapy was discounted, there was an abrupt and dramatic loss of metacarpal bone mineral content. By the end of the four-year period of mestranol densities equivalent to control patients who had never received estrogen replacement therapy. This has given considerable support to the concept of continual treatment with estrogen in postmenopausal and castrated women.

Combination Therapy Several regimens of estrogen alone, estrogen plus calcium, or estrogen plus calcium and sodium fluoride have been evaluated in relation to fracture rates in the postmenopausal woman.[9,10] Calcium supplementation at a level of 1500 mg of calcium carbonate daily decreased the fracture rate by 50 percent per 1,000 years observed. An additional 75 percent decrease in the fracture rate was noted with the addition of 40 mg of sodium fluoride daily to the treatment regimen. Unfortunately, the majority of individuals in the study were unable to tolerate the sodium fluoride therapy because of gastrointestinal irritation. In individuals with preexisting osteoporosis who either have a high-risk rate for fracture or have had fractures, an estrogen, calcium, and sodium fluoride regimen should be considered. In all women over the age of 35, supplementary calcium therapy in the range of 1000 to 1500 mg daily should be advocated. The average dietary intake of calcium is from 400 to 800 mg per day.

Recent studies on the chronic use of thiazide diuretics in relation to postmenopausal bone mineral content in both estrogen-treated and untreated groups have been reviewed.[11] Administration of thiazides over a period of years was associated with significantly higher bone mineral content. Long-bone fracture prevalence was decreased by 50 percent compared to a control group receiving no thiazide therapy. The thiazide apparently increased bone mineral content at both trabecular and cortical sites, while estrogen was associated with greater bone mineral content in sites containing trabecular bone only. This is of significant interest because the head of the femur, where hip fractures often occur, is cortical bone and therefore is relatively unaffected by estrogen therapy. Thiazides apparently work by causing decreased urinary calcium excretion, thus maintaining a lower rate of calcium resorption. Since hip fractures are the major factor contributing to the morbidity and mortality related to osteoporosis in the aging population, thiazides may be an additional tool in the prevention of nontraumatic hip fractures.

Estrogen Dosing Regimens Several studies have been conducted to clarify the threshold dose at which various estrogen products are effective in preserving bone mineral content. Conjugated estrogen at a daily dosage of 0.625 mg, ethinyl estradiol at 10 mcg daily, and a new transdermal estradiol product at 0.05 mcg daily have been shown to be effective at these dosing schedules.

Risks/Benefits of Estrogen Replacement

A number of clinically significant risks have been associated with the use of estrogen replacement therapy including endometrial and breast cancer. At the same time, however, a number of studies have indicated significant benefits in the reduction of coronary artery disease via protective effects of estrogen and associated improvements in the lipid profile. It is therefore important for the primary care physician to evaluate this mode of therapy in relation to this risk/benefit ratio.

Endometrial Cancer A positive correlation between estrogen therapy and endometrial cancer has been observed since the 1970s.[12] The risk of developing endometrial cancer in the postmenopausal population is approximately 1 woman per 1,000 per year. With the use of estrogen replacement therapy alone, the relative risk rate increases from the above stated figure to between 4 to 9 women per 1,000 per year.[13] But with the addition of progesterone therapy to the estrogen

regimen in postmenopausal women with a uterus *in situ*, several studies have shown that the relative risk for developing endometrial carcinoma is reduced to the control level or below.[14]

Breast Cancer To date, a number of case control studies on exogenous estrogen and breast cancer have been conducted.[15,16] The vast majority of these reports have substantiated the fact that exogenous estrogen is associated with an increased risk rate of developing breast cancer in the range of 1.1 to 1.2. This risk ratio, however, has only been demonstrated in long-term users (greater than 10 years) of estrogen replacement therapy.

Protection from Coronary Artery Disease For a significant period of time, there has been speculation within the medical community as to possible beneficial effects of estrogen therapy in the prevention of coronary artery disease. As early as 1968, Ferment published a graphic representation of the discrepancies in death rates from coronary artery disease between white males and females through age 85. This has led a number of observers to speculate about the protective mechanisms of estrogen in the premenopausal age group of women.

Henderson and colleagues recently published a report on long-term estrogen replacement therapy, cardiovascular disease, and acute myocardial infarction.[17,18] The longitudinal study included data gathered on 8,841 females between age 44 and 101 years. These case control and cohort studies demonstrated that long-term estrogen users (greater than 5 years) experienced a 25 to 40 percent reduction in acute myocardial infarctions (95 percent confidence intervals 0.1 to 0.8). Protection against acute myocardial infarction was conveyed, to a comparable degree, to women with cardiovascular disease risk factors including cigarette smoking, obesity, stroke, hypertension, diabetes, angina and, most importantly, previous myocardial infarction.

Gruchow and associates recently published data on coronary artery occlusion in estrogen and nonestrogen users.[19] Utilizing coronary angiography, their study demonstrated that estrogen users had significantly less frequent and less severe coronary artery occlusive disease. This protection was, again, independent of other risk factors, as enumerated above. The increased high-density lipoprotein (HDL) cholesterol levels among estrogen users was attributed as a probably biologic mechanism by which postmenopausal estrogen use lowers the risk of coronary occlusion.

Several studies on estrogen replacement therapy and lipid values have been conducted that correlate total cholesterol (TC), HDL, low-density lipoprotein cholesterol (LDL), and triglycerides with the incidence of coronary artery disease. These studies clearly show that oral estrogen replacement therapy in postmenopausal women decreases TC, LDL, and triglycerides, while increasing HDL. The mechanism postulated for these changes in lipid profile is through the gastric absorption and first passage of this drug through the liver, that is, via the gastrohepatic circulatory pathway. Hepatolipase A activation with oral estrogen is believed to be the mechanism of action. Studies to date with transcutaneous estrogen replacement do not demonstrate similar lipid changes since the gastrohepatic pathway is bypassed, at least on the initial pass from the skin directly to the target organs. With the addition of medroxyprogesterone acetate to a monthly regimen of estrogen replacement, HDL levels are lowered. This adverse effect suggests that any oral progestational agent be kept at the lowest possible dose and be used for the least amount of time during the menstrual cycle.

Additional Benefits of Estrogen Further benefits of estrogen to the genitourinary and central nervous systems have been documented. These include the alleviation of hot flushes, which are secondary to vasomotor instability, the preservation of vaginal mucosal integrity, and the alleviation of vaginal dryness. The enhancement of REM sleep has been similarly documented with estrogen replacement therapy. Although case control studies have not shown that estrogen replacement therapy and its effect on the vaginal mucosa and other supporting structures have prevented vaginal prolapse, theoretically, it may play an alleviatory role.

Conclusions

From the liberal, poorly controlled use of estrogen replacement therapy in the postmenopausal female in the 1960s and early 1970s, wherein the annual sales of estrogen were the highest of all drugs, to the cancer scare period of the late 1970s and early 1980s when many physicians stopped advocating estrogen replacement for these patients, physicians have now settled on a more scientific and logical approach to the use of estrogen replacement therapy.

With very few exceptions (including patients with breast cancer, positive estrogen receptors, advanced endometrial carcinoma, and recurrent thrombophlebitis), the vast majority of postmenopausal women are candidates for estrogen replacement therapy.

For a patient with a uterus *in situ*, a therapeutic regimen that consists of estrogen on a daily basis with the addition of a progestational agent for the first 10 days of the month has proved to be most effective. In approximately 80 percent of individuals so treated, withdrawal bleeding will occur on a cyclic basis. Patients need to be counseled that this is a normal and expected phenomenon. Endometrial sampling should be reserved for those patients having withdrawal bleeding that is excessive or that occurs during the estrogen or early progesterone portion of the treatment cycle.

For patients without a uterus, estrogen replacement

ing that is excessive or that occurs during the estrogen or early progesterone portion of the treatment cycle.

For patients without a uterus, estrogen replacement should consist of daily estrogen alone. The addition of a progestational agent has not been shown to be of significant benefit, particularly in relation to the reduction in the incidence of breast cancer. Conversely, the addition of a progestational agent has been shown to diminish the favorable TC/HDL cholesterol ratio of estrogen alone.

There has been recent interest and research on the bioequivalence of the various conjugated estrogen products available. Premarin, a biologically prepared product from pregnant mares' urine, has a number of estrogen sulfate components. Equilin, one of these components, has been shown to be a potent estrogenic agent that may well distinguish this product more favorably as a substantial estrogenic hormone. The ethinyl estradiol as well as the micronized estradiol products are converted, in the main, to estrone through the enterohepatic pathway before reaching target organs.

With patients on adequate estrogen and calcium replacement therapy, routine evaluation of bone mineral density is unwarranted. Since dual photon absorptiometry is the most cost-effective and informative methodology for this determination, it should be used to follow the obese patient, who may not require estrogen replacement therapy, or the patient who must be convinced that preexisting and/or progressive osteoporosis is present. Since progestational agents alone have been documented to reduce bone mineral loss, this should be considered together with calcium supplementation for the breast and endometrial cancer patients who are not candidates for estrogen therapy.

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Adverse Events Following DTP Immunization in Maryland, 1987

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Between January 1, 1987 and December 31, 1987, a total of 184 adverse events were reported to have occurred within 28 days following diphtheria, tetanus, pertussis (DTP) immunization in Maryland. More than half the reports (54 percent) were of serious or major vaccine reactions. Screaming episodes were the most frequently reported serious reaction, having occurred in 64 (35 percent) of the reports.

The objective of immunization is to enhance an individual's immunity against an organism or an endotoxin while incurring minimal side effects. The DTP vaccine is a combination of diphtheria toxoid, tetanus toxoid, and whole cell inactivated *Bordetella pertussis*.[1] The pertussis component of the DTP vaccine may contain whole bacteria, bacterial antigen, or bacterial endotoxin.[2] Administration of any of these components can enhance the immunological response in an individual.

The Immunization Practice Advisory Committee (ACIP) recommends 0.5 ml intramuscular DTP vaccination of children at 2, 4, and 6 months of age, and a fourth dose at approximately 15 months of age.[3] A booster dose before a child enters school or before the seventh birthday is recommended. It has been estimated that the efficacy of DTP vaccine is about 80 percent for pertussis in recipients who have had at least three doses.[1]

Minor and febrile reactions associated with pertussis vaccine are common. Pertussis vaccine has been infrequently associated with serious or major adverse events such as temperature of 105°F and greater, anaphylaxis, arthritis/arthralgia, seizures, encephalitis/encephalopathy, Guillian-Barré syndrome, Reye's syndrome, paralysis, screaming episodes, hypotonic hyporesponsive episodes, other neurological symptoms, and death.

As early as 1979, the Centers for Disease Control (CDC) recommended reporting of all vaccine reactions occurring within 28 days after immunization with vaccine purchased with public funds, if the reaction was more severe than a local reaction and if the patient was seen by a physician. Reactions were to be reported to the local health department or to the Maryland Department of Health and Mental Hygiene Monitoring System for Adverse Events Following Immunization (MSAEFI) Program. In May 1986 an additional state regulation on pertussis disease and pertussis vaccine became effective in Maryland.[4] This regulation required public and private health care providers to report major vaccine reactions occurring within seven days following pertussis immunization.

Although not required, some clinicians have reported minor vaccine reactions to the Maryland MSAEFI program.

We present the analysis of vaccine adverse event reports received by the Maryland MSAEFI program following administration of DTP vaccine between January 1, 1987 and December 31, 1987.

Methods

Within 24 hours of receiving an adverse event report, the local health department initiates an investigation and completes information on a Centers for Disease Control vaccine adverse event report form (CDC 71.19). The CDC report form contains information about the source of vaccine (public or private), type of vaccine given, vaccine manufacturer, vaccine lot number; a description of the clinical symptoms (including personal or family history of seizures), and any occurrence of reaction to the previous immunization. The information is obtained from either the reporting physician by telephone or from the parent/guardian by telephone or a home visit. Permission is obtained from the attending physician before contacting the parent. When the investigation is completed, the report is submitted to the MSAEFI program for review and analysis. If information is missing on the report form, the MSAEFI program coordinator contacts the local health department or the reporting physician to obtain complete information.

Reactions were defined by the occurrence of one or more symptoms occurring within 28 days of immunization, whether or not the child was seen by a doctor. A screaming episode was defined as high-pitched abnormal crying or unconsolable crying lasting at least 3 hours as reported by the physician or the parent. A hypotonic hyporesponsive episode (HHE) was defined as an unusual reaction characterized by paleness, hypotonia, and unresponsiveness occurring within 10 hours of vaccination and lasting 10 minutes to 36 hours.

Reaction rates were calculated for the public sector by using the total number of DTP vaccine doses administered at public clinics. Rates for private reports were calculated using the estimated number of doses administered by the private providers. The number of DTP immunizations given by private physicians was estimated by subtracting the number of doses of DTP vaccine administered by public clinics from the estimated total number of DTP doses given during 1987. The total number of DTP doses given in 1987 was approximated by using the number of children born in Maryland, the average number of DTP doses per child, and the estimated percentage of children immunized.

All MSAEFI reports were entered into a computerized data base for analysis. Probability values for two-by-two tables were calculated by the chi square test.

Results

A total of 184 children with adverse events following administration of DTP vaccine were reported among infants and children (ages 0 to 7 years) between January 1, 1987 and December 31, 1987. This was a 104 percent increase over the preceding four-year mean of 90 reports per year. Private providers reported 72 adverse events (as compared to 24 reports in 1986) and public providers reported 112 (Table 1). These adverse events occurred following administration of approximately 259,000 doses of DTP vaccine (41,000 doses administered by public health care providers and an estimated 218,000 doses administered by the private health care providers).

The rate of reporting by public provider was over eight times greater than by private providers (approximately 273.2/100,000 vs 33.02/100,000, respectively). The MSAEFI program received reports from 17 of the 23 Maryland counties and from Baltimore City. Reaction rates by county ranged from zero to 2206.6/100,000 doses, with a median rate of 120/100,000 doses administered in the public sector. The public clinic in county A with the highest rate reported 27.7 percent of all reactions reported in 1987. Privately administered vaccine reaction rates ranged from zero to 196.3/100,000 doses administered with a median rate of 4.1/100,000 doses. Although the overall rate of reported adverse events was higher for publicly administered vaccine, there was no difference between public and private reports in the percentage of reported events classified as serious events ($p = 0.25$) or in the percentage who saw a physician following the vaccine reaction ($p = 0.33$).

Table 1. Reported Reaction Rates and Percent of Children Examined by Physician Categorized by Source of Vaccine and Type of Reaction Maryland, January 1, 1987 - December 31, 1987

Reaction Type	Source of Vaccine								Total			
	Private				Public							
	Number	Seen by MD n	(%)	Rate*	Number	Seen by MD n	(%)	Rate**	Number	Seen by MD n	(%)	Rate*
Serious	43	12	(28)	19.7	56	20	(36)	136.6	99	32	(32)	38.2
Minor	29	11	(38)	13.3	56	25	(45)	136.6	85	36	(42)	32.8
Total	72	23	(32)	33.0	112	45	(40)	273.2	184	68	(37)	71.0

* rate per 100,000 doses DTP estimated to have been administered by private providers
** rate per 100,000 doses DTP administered in public clinics

Most children with adverse events had received DTP vaccine and other vaccines simultaneously. Of the 184 reports, 60 (33 percent) vaccine recipients received DTP vaccine alone; 109 (59 percent) had DTP and OPV; 12 (6 percent) had DTP, OPV and other vaccines (for example, Hib, MMR, etc.); and the remaining 3 (2 percent) cases had been given DTP and other vaccines.

Table 2 presents the frequency of adverse events following DTP vaccination. Reactions are categorized by the most severe reaction reported. Minor reactions were reported to have occurred in 85 (46 percent) children. Ninety-nine (54 percent) of the reports were classified as serious or major adverse events, with a rate of approximately 38.2 reports for every 100,000 doses of DTP vaccine administered. Screaming episodes were the most frequently occurring serious adverse event, occurring in 64 (65 percent) of the reported serious events. Ten (10 percent) seizures, 9 (9 percent) hypotonic hyporesponsive episodes (HHE), 7 (7 percent) other neurological symptoms, 8 (8 percent) fever cases of 105°F or greater, and one case of arthralgia/arthritis were reported as the most severe event.

Table 3 provides details of the three most severe reactions: screaming episodes, seizures, and hypotonic hyporesponsive episodes. Screaming episodes occurred in 64 children for a rate of approximately 24.7 cases/100,000 doses of DTP vaccine. The median age of a case was 4 months (range 1 month to 43 months). Most of the screaming episodes occurred within one day of vaccination. Only 15 (23 percent) saw a physician because of the reaction. Of the 64 screaming episodes, 20 (31.3 percent) were reported by one public clinic, county A, which administered 4.9 percent of the total publicly administered DTP vaccine.

Ten children had seizures following DTP vaccination, with a rate of approximately 3.9 cases/100,000 doses administered. These children ranged from 1 month to 28 months old, with a median age of 11.5 months. Seven cases had elevated temperature. None had a prior history of seizures or neurological illness. One case had a family history of seizures. Three cases had history of reactions to prior vaccination (one had a serious reaction, and two were minor reactions). In 8 of the 10 cases, onset of seizures took place within 24 hours of immunization, and two cases had onset seven days following immunization. Three cases had been given MMR vaccine simultaneously with DTP vaccine: two had seizures within 24 hours of immunization and one had seizures seven days following immunization. Nine of the ten children with seizures were seen by a physician. One child who developed seizures seven days after receiving DTP and OPV was later diagnosed as having cerebral infarcts and cerebral palsy; the seizures were temporally but probably not causally related to DTP immunization.

Nine cases of hypotonic hyporesponsive episodes (HHE) following DTP vaccination were reported, with a rate of approximately 3.5 cases/100,000 doses administered. These cases ranged in age from 1 month to 42 months, with a median age of 4 months. None of these children had any history of seizure activity or neurological illness prior to immunization. One child had a local reaction to a previous vaccination, and another had a family history of seizures. Seven of the 9 cases experienced elevated temperature (average temperature was 102.1°F). Hypotonic hyporesponsive episodes frequently occurred following the first dose of DTP vaccination. Two of the nine were seen by a physician because of the reaction.

We determined the outcome of the adverse events at 30 days following immunization for 180 (98 percent) of the reported events. Four cases could not be located for follow-up. One-hundred seventy-six children (98 percent) were fully recovered. The remaining four were partially recovered; one had cerebral palsy determined by the physician to be unrelated to immunization, one had a residual abscess, one had asthma, and one was described to have irritability.

The MSAEFI system identified no lots of vaccine that had to be recalled because of elevated reaction rates.

Table 2. Adverse Events Reported following DTP Immunization Categorized by Most Severe Event January 1, 1987 - December 31, 1987, Maryland

Type of Reaction	# of Reports	% of Total
Serious adverse events (N=99)		
Convulsions	10	4
HHE*	9	5
Screaming episodes	64	35
Other neurologic symptoms	7	4
Arthritis/arthralgia	1	1
Fever (=105°F)	8	4
Minor adverse events (N=85)		
Rash	6	3
Adenopathy	2	1
Allergy	3	2
Fever (100°F - 104.9°F)	45	24
Other minor events	21	12
Local reactions	8	4
Total	184	100

* HHE Hypotonic hyporesponsive episode

Discussion

In the first year following a Maryland law requiring reporting of major vaccine reactions following pertussis immunization, public and private sector health care providers reported 184 adverse events following DTP immunization. Although the 104 percent increase over the preceding four-year average was largely due to increased reporting by the private sector, private health care providers are still underreporting, compared to public providers. Marked variation also was seen among counties, with the public clinic in one county reporting 27.7 percent of all vaccine reactions in the state, a rate 18 times the public sector median.

The county that reported a significantly higher number of adverse events following immunization was investigated. The high rate of reactions was not due to different vaccine lots being administered in that county, and staff were found to be using standard vaccine administration techniques. The high rate of reactions may have been due to increased surveillance for vaccine adverse events or more active parent education about pertussis side effects and, thus, better reporting of adverse events by parents.

The Maryland law did not specifically define the reactions to be reported. Many reactions require subjective interpretations on the part of the parent or health care provider. Additionally, some providers may still be unaware of the requirement to report. Our data illustrate that parents, clinicians, and counties have different definitions for various vaccine reactions, and set different thresholds for reporting. These differences are reflected in the reported vaccine reaction rates. It must be emphasized that the occurrence of an adverse event within 28 days after administration of vaccine is not necessarily confirmation of a causative relationship and may, in fact, be only temporally associated.

Rates of screaming episodes, seizures, and HHE that are reported here were approximately ten times lower than those reported in prospective DTP vaccine studies,[5-9] but higher than the rate of 1:800,000 reported to one vaccine manufacturer.[10]

The Maryland reporting system is a passive surveillance system and, as such, all vaccine reactions are not reported. The calculated rates of reported reactions lack precision since the denominator is, by necessity, only an estimate of the total number of doses administered. However, passive reporting plays an important role in identifying types and relative frequencies of reactions, in monitoring trends, and possibly in identifying lots of vaccine associated with high rates of reactions. Our experience is particularly timely in light of the National Vaccine Injury Act passed in 1988.[11] The act makes major reactions following certain vaccines reportable. Other states can expect more than a doubling of reports, if our experience with DTP is repeated.

Diphtheria, tetanus, and pertussis vaccine continues to be a safe and effective vaccine. No cases of encephalitis or death due to DTP were reported in Maryland in 1987. Research on an acellular vaccine of greater efficacy and fewer side effects is under way.[12]

Table 3.
Characteristics of Total Adverse Event Reports and Selected Serious Adverse Event Reports January 1, 1987 - December 31, 1987, Maryland

	Total Adverse Events	Screaming Episodes	Convulsions	HHE*
Number	184	64	10	9
Rates(100,000 Doses)	71	24.7	3.9	3.5
Median Age (Months)	5	4	11.5 +	4
Age Range (Months)	1 - 82	1 - 43	1 - 28	1 - 42
Day of Onset				
Day Of Immunization	150	57	7	8
1 Day Following	30	7	1	1
2 Days Following	1	0	0	0
$\geq$ 3 Days Following	3	0	2	0
DTP Dose				
First	65	28	2	5
Second	46	20	1	3
Third	31	11	4	0
Fourth	29	5	3	1
Fifth	12	0	0	0
Unknown	1	--	--	--
Accompanying Fever				
No	57	25	3	2
Yes	127	39	7	7
(100°F - 103°F)	73	26	2	5
(103.1°F -104.9°F)	41	11	4	2
($\geq$105°F)	13	2	1	0
Seen by MD (%)	68 (37%)	15 (23%)	9 (90%)	2 (22%)
Pub/priv reports	112/72	37/27	4/6	6/3
# Reptd by county A	51(27.7)	20(31.3)	1(10.0)	3(33.3)

* HHE = Hypotonic Hyporesponsive Episode
+ 3 cases (age 15, 21, and 28 months) received DTP and MMR; Median age is 7 months if these three cases are excluded.

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Changes and Challenges for the Practitioner

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We continue to advance our knowledge regarding susceptible hosts. As people live longer, society is faced with a new problem of dealing with ever-increasing numbers of elderly with inadequate immune defense. HIV infections, cancer drugs, and steroids continue to add more persons to this pool. As we prepare to move into the twenty-first century, historical perspectives on our past triumphs and failures allow us to feel confident to meet the challenges ahead in preventing life-threatening illnesses in persons with immune deficiency.

With the advent of chemotherapy, dramatic changes have occurred in the treatment and prevention of transmission of tuberculosis. Fortunately childhood tuberculosis is a rarity to the average practitioner in the community; however, if undetected and not treated adequately, disastrous results can ensue. One must remember that identification of the source of the mycobacterial organisms and rapid reporting of the identified case (so that appropriate epidemiological follow-up can occur) are as important as management of the case itself.[1] Although practitioners and the health care delivery system have anticipated the eradication of tuberculosis based on reports from erudite bodies, the downward trend anticipated over the past ten years was recently reversed.[2]

One also might reflect on the changing scene in the use of institutional resources to manage various pathophysiological entities or the challenges facing house staff years ago compared with those of today. The Sydenham Hospital described in the following article no longer meets the standards of licensure or accrediting bodies. It is, in fact, an office building currently housing the headquarters of a research project on osteoporosis, the Baltimore City Geriatric Evaluation Service, the Volunteer/Auxiliary of Montebello Rehabilitation Hospital, and the offices of various members of the health care delivery team of the rehabilitation hospital.

But our Commentary focuses on the major shifts that have occurred in the prevention of communicable diseases. Childhood immunization programs have been extremely successful in eradicating vaccine-preventable diseases. Past experiences in Britain and other countries have illustrated the need to maintain high immunization levels to prevent the reemergence of vaccine-preventable diseases.[3] Surveillance efforts should be sustained: reporting of measles and other vaccine-preventable diseases will assist in containing outbreaks quickly, tantamount to a medical emergency.

The practitioner in the community, official and voluntary agencies, and the city and state medical societies must be recognized for

their major roles in ensuring high levels of immunization in children. The number of rubella, measles, and mumps cases have declined dramatically. The public health emphasis has shifted to students in colleges and high schools who have inadequate immunization. *H.influenza* conjugate vaccine offers an improvement over the disappointing results observed with the old polysaccharide vaccine.[4] Hepatitis B vaccination for babies born to HB-carrier mothers along with hepatitis B immunoglobulin prophylaxis offers protection against neonatal hepatitis B infection.[5] Field trials of vaccines to prevent chickenpox and rotavirus infections are being carried out. Diseases such as meningococcal meningitis are so rare that routine immunization of all children is not considered to be cost effective.

The very successes of vaccines in preventing dreaded childhood diseases have created their own problems. Adverse vaccine reactions and compensations for them have emerged as major health issues.[6] Research efforts are under way to market safer DTP vaccines. Inactivated polio virus vaccine is administered in instances when oral polio vaccine might pose a threat.

Even as we applaud the major advances in the area of childhood immunizations, we recognize the work ahead for all members of the health care delivery team in the area of vaccine-preventable diseases for adults, especially the elderly and the immunocompromised. Over half a million cases and 40 thousand deaths due to pneumococcal disease occur each year in the United States.[7] Studies on pneumococcal vaccine have demonstrated the benefits of the pneumococcal vaccine given to the elderly before their immunological status deteriorates.

Vaccine efficacy studies on the presently available influenza vaccines have been disappointing.[8] Research on influenza vaccines hold promise. Vaccines against gonorrhea, herpes, immunodeficiency syndrome (AIDS), and tuberculosis continue to elude us. Given the rarity of diphtheria and tetanus, it is difficult to justify a large-scale program to vaccinate all adults against these diseases. Persons most at risk for hepatitis B (notably IV drug abusers and homosexual men) are also the hardest to reach before they become infected. Unfounded fears and myths continue to play a major role in the poor acceptance of hepatitis B vaccine for health care workers.[9]

Screening has played an important role in reducing the incidence of tuberculosis and gonorrhea. The tuberculosis mortality has declined so dramatically that the State Health Department no longer recommends routine tuberculin screening except under certain selected circumstances. Diagnostic tools such as plasmid profiles, DNA probes, and rapid test kits are becoming routine. Even as the microorganisms continue to develop resistance to existing chemotherapy, newer drugs are being discovered. History has taught us a painful lesson regarding the adaptability of the microorganism to all the chemotherapy we have to offer to the patient. We are afraid that ciprofloxacin, our latest wonder drug, will not prove to be an exception to the rule.

AIDS justifiably is called the epidemic disease of the twentieth century. With its protean manifestations HIV infection already has replaced syphilis as the great mimic. Our immediate hope in stemming this epidemic rests on inducing behavioral changes in the public. Issues of confidentiality, legal problems, and medical dilemmas are being hotly debated to determine the best way to curb the epidemic of AIDS.

The AIDS epidemic has overshadowed exciting discoveries in other areas of infectious disease epidemiology. Having been recognized as a common clinical syndrome in the northeast, Lyme disease is no longer considered a medical curiosity.[10] *E.coli* 0:157 has been identified as an important etiological agent for the hemolytic-uremic syndrome.[11] An association between parvovirus infection and fifth disease has been strengthened.[12] The role of cytomegalovirus in causing Kaposi's sarcoma has been studied. The role of hepatitis B in inducing liver cancer is firm enough to consider hepatitis B vaccine as the first vaccine against cancer. Also, the deadly interactions among the microorganisms causing delta hepatitis, heptatitis B, HIV, and tuberculosis have interested many researchers.

There is an explosion of information pertaining to health care delivery and the identification and management of infectious diseases. The State of Maryland Department of Health and Mental Hygiene, a resource available to all members of the health care delivery team, provides updated information in the realm of communicable and infectious diseases and may be reached by calling 301-225-6677.

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The Changing Scene in Health Care Delivery

Margaret H. D. Smith MD

On November 17, 1987 a symposium was held at the Johns Hopkins Children's Center to commemorate the founding 75 years earlier of the Harriet Lane Home (HLH), forerunner of the Children's Center. Among the talks was the following, which we present to underline the enormous differences in the infectious disease problems of today compared to those of fifty years ago and to point out how hospital buildings too can be recycled.

During 1945, when the Second World War was essentially over, the Hopkins Medical staff were trickling back from their wartime activities to resume their old jobs, and people like me, who had filled in for the regulars during their absence, were preparing to leave. One of my Harriet Lane colleagues asked me, "And what are you going to do with the rest of your life?" "Oh," I said, "I find infectious diseases so interesting that I am going to stay in this field." "What!" he said. "Meningococcal meningitis every winter; measles and mumps and whooping cough every spring; shigellosis and polio every summer; and then, when school starts up, diphtheria and scarlet fever in the fall; and that's the way it will be every single year for the rest of your life!" Today, one could be a very acceptable candidate for a chief resident in pediatrics in the United States without ever having seen a single case of any one of those diseases. And here I am in infectious diseases 40 years later.

Looking back, it is clear that a very large proportion of the cases in the Harriet Lane in the early years were due to or associated with infectious disease. Patients poured in from the Eastern Health District morning, noon, and night. The parents brought the children in on the North Wolfe Street side through the big entrance to the quadrangle and along to the door of the Harriet Lane. Just inside the door was the triage officer, usually a lowly intern, whose job it was to divide the patients into those who were direly ill or who had obvious contagious problems (diphtheria, meningitis, rash, acute otitis media, mastoiditis, pneumonia); all those went off toward the left to separate examining rooms whereas those who were returning by appointment or arriving with chronic problems went to the big waiting room on the right. It was basically a good system and excellent training for the house officer in instant evaluation of patients. Woe unto him or her who sent a patient with chickenpox out into the big waiting room on the right.

Before returning to the acute infectious problems on the left, I invite you to proceed with me to the right through the big waiting room to the Tuberculosis Clinic down one of the back wings.

The Harriet Lane Tuberculosis Clinic was a remarkable clinic. It was started in 1928 by Dr. Edwards Park, shortly after he became departmental chairman. Baltimore was an eminently appropriate city for such a clinic since it has always had a relatively high incidence of tuberculosis (up to the present time) and, therefore, a high death rate (Table 1). For the first four years Dr. Park worked in the Tuberculosis Clinic by himself with the help only of the social worker, Miss Georgie Walker, who worked in the clinic from the day it opened until the day it closed 22 years later in 1950. She

did have help in the intensive social work and in the follow-up from many others, among them Irene Ravitch. Miss Walker herself performed and read every single tuberculin test that was done throughout those years, using the same batch of concentrated old tuberculin. Dr. Park, soon realizing how very very little was known about the natural history and prognosis of childhood tuberculosis, enlisted the aid of Dr. Wade Hampton Frost, Professor of Epidemiology at the School of Hygiene. Together they set up records susceptible to statistical analysis. The clinic grew rapidly and more help was needed.

From 1932 on Dr. Miriam Brailey was in charge of the clinic. Born in Vermont in 1900, Dr. Brailey graduated from Mt. Holyoke, then from the Johns Hopkins Medical School in 1930. She received her DrPH in 1931, spent a year in pediatric training, and then headed the Tuberculosis Clinic until 1942, when she became director of the Bureau of Tuberculosis of the City of Baltimore and later director of the adult Tuberculosis Clinic of the Johns Hopkins Hospital. A tall, dynamic, devout Quaker, she made a strong impression on house officers (like myself) who worked with her. Whether we were assigned at our request or by chance, I do not remember. Some medical students also were assigned, mainly for x-ray reading, and Lydia Edwards recounts the fun she had whenever she slipped in the chest x-ray of a monkey with a chain around its neck!

The Tuberculosis Clinic admitted children under two years old who were either tuberculin-positive or likely to become so because of contact with a sputum-positive adult in the home. Out of the data accumulated on the 1,329 children in the study came the first systematic understanding of the natural history of primary infection with tuberculosis in human beings. Here were answers to questions such as: What is the likelihood of a young child dying of tuberculosis if he has a lesion on x-ray; and if he is going to die, when will it happen? What percentage of children with positive tuberculin tests actually will die (if not treated), and are there differences in different ethnic groups? How does primary tuberculosis evolve? What Wallgren later called the "timetable of tuberculosis" was first systematically studied and clarified in the HLH TB clinic.[1]

Dr. Lydia Edwards assumed the directorship briefly from 1942 to 1944, and was succeeded by Janet Hardy from 1944 to 1949 (Table 2).

A number of papers resulted from these years of intense clinical observation and public health work; Miriam Brailey and Janet Hardy analyzed and summed up their findings in two companion volumes, *Tuberculosis in White and Negro Children*, published in 1958.[2,3] Many others worked also in the Tuberculosis Clinic, including Dr. Edwin Kendig Jr. who has maintained a lifelong interest in the disease and published many articles on it, most recently his Jacobi Award address.[4] The clinic closed in 1950.

Return with me to the triage desk at the front door of the Harriet Lane Clinic on a busy afternoon and turn left to see what happened there. The majority of patients would be suffering from mundane things such as otitis media, pneumonia, and sore throats and would be treated as outpatients. Some few with severe pneumonia, empyema, mastoiditis, or osteomyelitis would be admitted to the HLH or possibly referred to Sinai Hospital (at that time just across Monument Street) or maybe to Baltimore City Hospitals. Patients with uncomplicated measles and chickenpox would be diagnosed and sent home.

But what about diphtheria, meningococcal meningitis, and complicated measles or chickenpox? Almost all had to be sent by special ambulance to Sydenham, the municipal communicable disease hospital. Not only were *patients* by the dozens shipped there, but also all Hopkins *students* were taught there for many years and all HLH *house officers* for a great many years worked there. It was an integral part of the Harriet Lane experience and, therefore, deserving of a very special look in conjunction with the history of the HLH.

Sydenham

Contagious disease hospitals began to develop in this country in the latter part of the nineteenth century as places to segregate patients with contagious diseases, but the demand for such a hospital in Baltimore really came from William Welch (seconded by Osler) just 100 years ago. Welch was appointed chairman of a commission to come up with a site for the hospital that, after years of delay, opened in 1909 on the grounds of Bay View (later Baltimore City Hospitals and now Francis Scott Key Medical Centre). Table 3 gives some indication of the infectious disease situation in Baltimore in 1920.

Table 1. Tuberculosis in Baltimore

Year	Cases	Deaths
1920	1,421	?
1930	1,532	812
1940	1,543	816
1945	1,925	773
1950	1,346	536
1970	493	91
1985	182	16

Table 2. History of HLH TB Clinic

1928
Started By Dr. Edwards Park with
Miss Georgie Walker, Social Worker
1932
Dr. Wade Hampton Frost : forms for statistical analysis
1932 - 1941
Dr. Miriam Brailey, Director
1942 - 1944
Dr. Lydia Edwards, Director
1944 - 1949
Dr. Janet Hardy, Director
1928 - 1944
1329 Children admitted from 507 households
892 black from 326 households
437 white from 180 households
1950
Clinic closed

Sydenham immediately was filled to capacity and the Welch Commission had to resume its unpopular job of finding a location for a larger pest house. Said Harry Dowling, "The location of the new hospital was kept secret until it was completed. People who saw a building being constructed on the grounds of the reservoir at Montebello must have assumed it had something to do with the city's water system. Only when the building was almost completed was a sign put up that read *Sydenham Hospital.*"[5]

In 1924 the hospital opened and comprised a main building, a nurses home, and five auxiliary buildings. The main building included three stories and could accommodate up to 140 patients in a dire emergency, although the usual census was more like 50 (mostly in private rooms with private bath, some in larger wards). In 1930 most patients referred by the HLH and other clinics in the city and by private doctors were suffering from diphtheria and scarlet fever, but as confidence in the hospital increased, relatively larger numbers of patients were referred for admission (Table 4). It is noteworthy that smallpox disappeared in 1928 from Baltimore forever.

By 1931 Dr. Huntington Williams had become Commissioner of Health, and Sydenham was under his direct supervision. Thereafter, the number of admissions to Sydenham Hospital remained at a steady level (Table 5). Meanwhile Dr. Park had found the facilities at the HLH too meager for teaching and research in infectious diseases,[5] and with Williams, Park arranged for a new position at Sydenham, henceforth occupied by a member of Dr. Park's staff with responsibility for all teaching, patient care, and research. Francis Schwentker was Director from 1936 to 1938, and pediatric interns were regularly and continuously rotated from HLH, Duke, sometimes Vanderbilt, and medical interns from the University of Maryland, so that Sydenham became a bona fide university teaching service. The Director reported weekly to Dr. Park as well as to Dr. H. Williams. It also promptly became a research-oriented service dedicated to the trial of new anti-infective agents, at first sulfonamides, later streptomycin and penicillin.

Table 3. Communicable Diseases in Baltimore I
Reported cases (deaths) [case rate/100,000 pop]

	Balto City 1920	Sydenham 1920
Diphtheria	1,549 (100) [210]	188 (21)
Measles	5,039	-
Meningitis	55	4 (4)
Polio	15	-
Scarlet fever	1,248 (13)	160 (1)
Whooping cough	1,085	3 (1)
Smallpox	34	-

Table 4. Communicable Diseases in Baltimore II
Reported cases (deaths)

	Balto City		Sydenham	
	1920	1930	1920	1930
Diphtheria	1,549 (100)	522 (20)	188 (21)	257 (17)
Measles	5,039	451 (2)	-	9 (0)
Meningitis	55	36 (20)	4 (4)	29 (12)
Polio	15	21 (4)	-	11 (0)
Scarlet fever	1,248 (13)	1,777 (14)	160 (1)	552 (10)
Whooping cough	1,085	1,028 (16)	3 (1)	18
Smallpox	34	(1928 Last case)	-	-

What an exciting time that was: I remember as a medical student in 1938 being shown a bright little black girl said to be the first patient ever to recover from pneumococcal meningitis, thanks to sulfa drugs.

Schwentker left in 1938, and Horace Hodes, his successor, maintained and increased the emphasis on excellent medical care, good teaching, and research. Hodes was director from 1938 to 1949 except for the three war years 1942 to 1945 when I replaced him as Medical Director while he was in the Service.

How competent and scientific could this hospital be way out there alone with the waterworks? Table 6, showing a partial list of bacteriologic procedures for 1940 gives the feeling that as far as bacterial infections were concerned, Sydenham was for its day a very up-to-date place. Diagnostic virology was essentially nonexistent at that time. The bacteriology lab was presided over by Helen Zepp (Zeppy), a real Tartar but with a soft heart, keen intelligence, and a great deal of patience for teaching house officers.

What kinds of patients were seen? Always patients with diphtheria and scarlet fever, but Table 7 shows how what might be called the disease-of-the-year varied enormously in the community, and that of

Table 5. Sydenham Hospital - Admissions

1931	1,600
1933	1,382
1934	1,423
1935	1,403
1936	1,685
1937	1,589
1939	1,218
1941	1,362
1942	1,103
1943	989
1945	1,043

Note: figures supplied by H.F. Dowling[6]

varied enormously in the community, and that of course was reflected at Sydenham (Table 8). Some of us remember all too vividly the awful polio epidemic in the summer of 1944: terrible heat; no air-conditioning, not even a cross draft because the doors to the individual rooms were always kept strictly shut; the big old-fashioned respirators; patients crying and screaming with pain, especially the older ones; the Kenny hot-pack method of treatment; the drinking fountain flasks filled with normal saline instead of water because the staff members were constantly drenched in perspiration.

And then there was the diphtheria epidemic of 1945 with all the tracheotomies and the patients with mycocarditis who had to be kept flat on their backs for weeks on end; and the patients with ascending paralysis, which we could do nothing to stop. Busy we were, but bored never, and certainly the experience at Sydenham added many dimensions to the experience of the house officers and students from the HLH.

Into the Community

One dimension I always thought important was the opportunity to ride ambulance and see the patients in their own natural habitat, so to speak. As each new medical or nursing student or house officer came for a stint at Sydenham, one of the more senior people tried to go out with him or her for the first ambulance pick-up. I remember one early evening riding out with a student to a dreadful part of the city (now mercifully demolished) behind where the aquarium now is. It was such a bad area that even the police didn't dare go in, but the Sydenham ambulance was welcome, and with our white blouses on, emblazoned with Sydenham across the front, we were always safe. These slum houses were four or five stories high with two apartments on each floor and a very narrow winding staircase, so narrow that it was impossible to get a stretcher with patient down. The patient had to be lashed by the shoulders to the stretcher and lowered, moaning or screaming, down the center well.

On this particular day, we climbed to the top floor, and the student went into the back bedroom to talk to the mother while I waited out in the kitchen with the grandmother. "Hon, "she said to me, "you look tired." "Oh I am, "I said, I worked right through last night and never got to bed. "Hon,"she said, "You had dinner?" "No," I said, "but it will be waiting when I get back to the hospital." "Hon," she said, "When you're tired to the bone, there ain't nothing like food to keep you going. I know, and I gonna fix you a plate." Over my protests she took a dirty frying pan, fried up a mess of home fries, took a dirty plate off the table, cleaned it on her dirty apron and, put the home fries on top with a couple of fried eggs. I wolfed it all down gratefully and felt instantly better, just as she had prophesied. Here was I, from a very protected upper-middle-class home, and here was this woman, no doubt mother of thieves, murderers, and prostitutes, and very probably having herself engaged in each of those activities (depending on life's circumstances at the moment) mothering me very effectively at a time when I needed it. I have always felt that such experiences are invaluable for medical students (and for all of us) so that we become aquainted with at least a bit of the background of some of our patients.

Publications

Dozen of articles and papers resulted from the clinical experience and from the clinical studies carried out at Sydenham, often with house officers and sometimes medical students as co-authors: articles most often on antimicrobial therapy as it developed, but also on diphtheritic myocarditis. I remember one such article in 1944, "Combined Penicillin and Sulfonamide Therapy in Pneumococcic Meningitis." Tono Waring (Antonio J. Waring, Jr.) and I wrote it, and we dutifully took it to Dr. Park's office for him to pass judgment. In due

Table 6. Sydenham Hospital, 1940
Specimens for Laboratory Diagnosis - Partial List

Cultures	
Spinal fluid	227
Urine	38
Blood	153
Pus	388
Nose or throat for Diphtheria	6,893
Throat	1,750
Pleural/fluid	7
Agglutinations	
Patient's serum vs. pneumococcus	18
Miscellaneous	
Pneumococcus typing	605
Tuberculin tests	963
Sulfanilamide levels	160
Sulfapyridine levels	229

Table 7. Communicable Disease in Baltimore III
Reported cases (deaths)

	1930	1940	1944	1945	1950
Diphtheria	522	49	-	353	60
	(20)	(1)	-	(19)	(2)
Measles	451	83	-	206	357
	(2)	(0)	-	(1)	-
Meningitis	36	13	-	61	26
	(2)	(5)	-	(12)	(9)
Polio	21	4	238	21	225
	(4)	(0)	-	(0)	(9)
Scarlet fever	1,777	571	-	2,201	303
	(14)	(2)	-	(1)	(0)
Whooping cough	1,028	5,258	-	2,172	1,425
	(16)	(24)	-	(12)	(1)

Table 8. Communicable Diseases in Baltimore IV
Reported cases (deaths) Sydenham

	1940	1944	1945
Diphtheria	50 (2)	171	293(20)
Measles	4 (0)	-	6 (2)
Meningitis	34(20)	-	94 (39)
Polio	8(0)	238	54(4)
Scarlet fever	336(1)	-	89(0)
Whooping cough	258 (22)	-	138(11)

course, we were both summoned: he was sitting very tall behind his desk. After a long silence he said, "Dr. Smith and Dr. Waring (he was always very formal) I have read your paper. It is a perfectly terrible paper. I think it's the worst paper I ever read. It will be necessary for you to spend the entire day on Sunday out at our house reworking the paper. You will arrive promptly at 8 a.m." With that, we were dismissed. I was almost in tears, but Tono, who was already an habitué of the Park household, said "Oh, don't worry, he's only teasing."

At 8 a.m. on Sunday, we were there. First came bird watching out in the neighboring woods in the Green Spring Valley; then a delicious breakfast provided by Moo (Mrs. Edwards Park); then gardening under her cheery supervision followed by lunch with much conversation. Somewhere along the way we spent a few minutes on the paper, which Dr. Park had totally rewritten so that it was acceptable to the *JAMA*. For me that day was the start of a long and beautiful friendship that led to some lovely Sundays spent in the Green Spring Valley, trips to the Bethlehem Bach festival, and unforgettable holidays with the Parks in the Margaree Valley in Nova Scotia.

The history of Baltimore's Sydenham Hospital, to quote Harry Dowling again, illustrates the sequence of slow beginning, short flowering, and rapid decline of a typical contagious disease hospital in a typical American city. The story is also of interest because of the hospital's relationship to Johns Hopkins University. Sydenham, like all similar urban contagious disease hospitals, was put out of commission by improved sanitation; better housing; the development of immune sera, of parenteral fluid therapy, and especially vaccines; and dealt a final fatal blow by the very antimicrobials it helped introduce into medicine. By 1950 Sydenham was closed, and patients needing inpatient care for contagious diseases were sent back to Bay View (then Baltimore City Hospitals) as in the early years of the century.

The infectious disease situation in Baltimore has changed still further between 1950 and 1986, as shown in Table 9. The Montebello Sydenham Hospital building was recycled, to be a tuberculosis hospital, then a general chronic disease hospital. In its present incarnation, it has emerged as the Montebello Rehabilitation Hospital for patients following stroke and head injury, and once again residents in various specialties rotate there from university centers.

Table 9. Communicable Diseases in Baltimore V
Reported cases (deaths)

	1950		1985	1986
Diphtheria	60	(2)	0	-
Measles	357		1	-
Polio	225	(9)	0	-
Strep infections	303	(0)	2,707	-
Whooping cough	1,425	(1)	148	-
Tuberculosis	1,346	(536)	182	-
AIDS	-		-	88

Current Outlook

What can be said about infectious diseases today and into the future? Today's infectious disease specialist is totally different from the Sydenham staff physicians. In the first place he or she is not needed so much because of personal experience with a particular disease. Laboratory tests, if properly used, permit recognition of most infectious diseases. With the disappearance of the earlier common childhood infectious diseases, individual cases occur due to extraordinary pathogens, often in immunocompromised individuals. One scampers then to the computer and Medline to see who has had experience with one or a few similar cases. Heavily endemic and epidemic diseases are not the current infectious disease specialist's big problem, although with the advent of AIDS that could change.

Over the history of infectious disease in the world, almost every century has seen striking and unexpected happenings in the picture: epidemics of influenza, like the 1918 pandemic, which could happen again; diseases introduced from somewhere else such as the plague, measles, smallpox, syphilis, and dengue. Most, perhaps all, infectious diseases that affect man started as zoonotic infections, that is, diseases of animals, before cozying up to humans, and this probably is true of AIDS. What will happen from here on with AIDS is at the moment quite unpredictable.

In closing, I would like to tender a distant wave of thanks to Harriet Lane, the lady herself, out of whose own personal sorrow was born the Harriet Lane Home. She may have imagined how much good her bequest would do for sick children and their families, although I sincerely doubt she conceived the magnitude of the scale on which it has happened. Never could she have imagined how many medical students, nurses, and doctors would be inspired and spurred on by what they learned here, to disperse to far away places, carrying their competence with them, there to start up the cycle of child care, teaching, and research with resulting satisfaction to themselves and their new environment. For those things and for the friendships that inevitably arose during those intense joint endeavors and that last a lifetime - Harriet Lane, thanks a million, now and always.

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Religion and Medicine: An Ancient Relationship

Theodore E. Woodward MD

Dr. Woodward is Professor of Medicine Emeritus, University of Maryland School of Medicine. The following lightly edited talk was given at the Medicine and Religion Breakfast at Med Chi's 1988 Annual Meeting.

From the ancients came medical ethical codes, medical philosophies, and methods of treatment. There has been an evolution of religious belief and the philosophy and ethics of medicine in parallel with the art, science, and practice of our noble profession.

The civilizations of Mesopotamia and Egypt date back to the fourth century BC and were founded on mud and land enriched by floods. The people of Mesopotamia settled in the rich valley of the Euphrates and Tigris rivers. They were thought to be of Asian origin and, according to the writings, this was a land of plenty with food consisting of vegetables, barley, bread, cereals, milk, honey, and occasionally fish and meat. They were credited with having invented writing to help link the past with the present; they mined ores and engaged in metallurgy; they controlled rivers and founded their cities and political states on irrigated soils. Codes of law were written, and man was regarded as having a right to justice.

Babylon

King Hammurabi of Babylon was said to have lived about 2100 BC. Most of the learned men in his court were physicians and priests who were called on to serve the king's officials. The poor were treated without fee. The physician-priests were learned in reading, writing, knowledge of science, religion, and literature. Their medical treatments often were performed by ritual and magic. Divination was one of the techniques used, and their concepts often were based on astrology. Medicine was regarded as a sacred art, and its principles frequently were taught in the temple. The sick were treated with charms, drugs, and minor operations. Physicians made a point of not treating hopeless cases.

In this civilization, the liver was regarded as the seat of the soul and center of life. The technique of hepatoscopy, performed by divination, was a ritual performed before the statue of a god. Usually an animal was sacrificed and the liver of the animal was examined and compared with a clay model of the liver. Various changes, colors, and prominences of the fresh liver were then used to gauge diagnosis and prognosis for the patient.

Illnesses were treated with drugs, fumigation, medicated baths, and hot and cold water baths. At times, drugs were given in anal suppositories and even by blowing medications into the urethra

with a tube. Phlebotomy was often performed by cupping, a procedure dating back to old China. Popular drugs of the day were hellebore or colchicine, opium, and hemp.

Diseases thought to be prevalent during the Euphrates' epoch included rheumatism; tumors; heart trouble; abscesses; jaundice; respiratory ailments; disorders of the eyes, ears and skin; and venereal diseases.

Codified laws were formulated to preserve public health, and for the first time, the duties and responsibilities of physicians were recorded. Legal penalties were established if the physician's treatment caused injury or death, and the sentence was pronounced by the king in the presence of his advisors.

If an operation caused the loss of an eye, the physician might have his hand amputated; if a highborn person died as a result of treatment, the physician lost his life. Fees for service were paid by sheckles of silver, gold, or copper. Sometimes payment was in kind, for example, grain, sheep, salt, or even slave labor. Under King Hammurabi, one of the first medical ethical codes known to man was established.

During the reign of King Nebuchadnezzar (about 600 BC) the city of Babylon was rebuilt. The hanging gardens were said to be one of the seven wonders of the ancient world. But with the water required for daily use and irrigation came mosquitoes and with it malaria and other diseases. It is known that dysentery, typhoid fever, leprosy, and eye diseases prevailed at this time.

Egypt of the Pharoahs

Ancient Egypt began with the reign of King Menes, about 3000 BC. During the next four years, there were thirty separate dynasties, which lasted until an asp poisoned Cleopatra's breast. This was the land of Pharoahs (Keeper of the Royal House), and the king was regarded as a god. There were many gods and goddesses and the sun god, Re, was also known as Ra, Amen, or Amon. Men in such high places as Pharoahs did not really die; rather, their death was regarded as a momentary interruption of life. The embalmer's art was established primarily for kings and noblemen. During the embalming, the brain (regarded as not very important) was withdrawn from the dead by suction through the nasal passages. Most of the viscera were removed but the heart, now conceived as the seat of personality, was left in place.

The physician of the day was usually a man of culture and learning; royal physicians were often specialists of eye and tooth disorders, abdominal complaints and the internal fluids. There was no money exchanged for fees, but usually the wealthy were expected to present gifts. Often, because of their eminence, Egyptian physicians were called on to consult with noblemen in neighboring Persia.

The most famous of the ancient Egyptian physicians was Imhotep, who lived about 3150 BC. Imhotep was the physician to King Zoser; he was priest, scribe, astronomer and grand visier. During his term of office, the first pyramid (Sakkara) was built; it is thought to be the oldest stone structure in the world. Under Imhotep, the foundation of Egyptian art was laid which prevailed for centuries.

Although in Mesoptamia the liver was regarded as the seat of life, the Egyptians transferred that belief to the circulation and respiration as representative of vital functions.

The heart was regarded as the center of the blood-vascular system, and 22 to 24 vessels were known to be connected to all body parts.

To the Egyptian physician, the heart and the circulatory system simulated the Nile river and its system of canals used for irrigation. Even now in the late twentieth century, particularly during times of bereavement, the minister often consoles with the comforting words: "Let not your heart be troubled." Also, each year on February 14 the symbol of St. Valentine's Day, is the heart, not the liver or the brain.

Medical practice in ancient Egypt consisted of two schools: the *Empiric method*, which was a costly ritual, available only for the wealthy, and a *magical ritual*, which was available to everyone. Remedies consisted of a thousand or more prescriptions. The common belief was that putrefaction, decay, and corruption were all similar processes. Much significance was placed upon the destructive effect of the fecal content of the bowel. Hence, the Egyptian commonly used purgatives and enemas for treatment. The medical papyri were simply directions of treatment written in hieroglyphics, which have been translated in modern times.

Alexandria developed the first great clinical school where anatomic dissection was first practiced. Their concept was that the seat of disease was the organs and not the humors.

Aesculapius-Hippocrates Era

Early Greece was established by Aryans, who came from beyond the Danube. With bronze weapons, they overwhelmed the stone-age inhabitants. Links with Eastern culture were established bringing the philosophy of Lao-Tse and Confucious from China and the beliefs of Buddha and Isaiah from India and Judea, respectively. The various tribes and sects distributed throughout the various Grecian Islands were unified.

Much of the known information came from the

blind bard, Homer, in his writings of poems, including the *Iliad* and *Odyssey*. Homer lived about the tenth century BC. Before Homer, the liver was regarded as the site of life; with Homer, this concept was transferred to the heart. After Homer, the soul was said to be located in the brain.

The Greeks engaged in speculative thought and made broad generalizations from observed facts. Many believed that the principles of nature (earth, air, water and fire) were responsible for man's equanimity. Others based their beliefs on magical phenomena. The Greeks were great borrowers: from the Egyptians, they gleaned knowledge of mathematics and building with columns; from the Babylonians, they borrowed the principles of astronomy. The Greeks then formulated all the known concepts into a fundamental knowledge based on history and logic. They built their white marble temples on rising heights in order to see the rising and setting sun but also for safety from invasion by a hostile force.

The early Greeks placed their religious belief in gods, whom they venerated as almost human and who seemed to spend timeless, deathless lives in feasting, love-making, and often meddling in earthly affairs. The accepted geneology of the gods was Zeus-Apollo-Athena-Aesculapius and his daughters, Hygeia and Panacea. The temples for the gods were built in pastoral, healthy settings on scenic grounds where there were natural springs, bathing pools, theaters, stadia, gymnasium, and gardens. Illness was believed to be punishment caused by the gods. In classic Greece, pilgrims, rich or poor, went to the temples to seek a cure. Now we call them spas.

Two great systems of medical philosophy developed: *temple medicine*, based on religious suggestions and psychotherapy, and *empiric medicine*, based on rational thought, which was the major contribution of Hippocrates.

The Aesculapian cult believed in temple medicine. Here, miracles were performed. Often healing was by incubation, which consisted of contemplative dreams and temple sleep. The person seeking help studied the temple writings, worshipped votives, and was massaged. He slept at the foot of Aesculapius and dreamed about him, often with the help of a little opium. Aesculapius or his daughters (Hygeia and Panacea) frequently appeared in the patient's dreams. In a day or two, the cured patient departed but was expected to leave a little remembrance, anything affordable, such as gold, silver, ivory, songs, prayers, sheep, or payment of various kinds. With a little stretch of the imagination, it can be said that the basic percepts of the nineteenth century sanatorium movement can be traced to Aesculapius and the Greek and Roman civilizations. There was no wide acceptance of this type of medical cure until the establishment of tuberculosis sanatoria by Brehmer, in the Silesian mountains in 1854, and by Edward Trudeau, at Saranac, in 1882.

The psychotherapeutic temple medicine period was followed by itinerant, peripatetic physicians, who carried medical practice to the villages. They were experts in pronoia, or prognosis. They described onlookers' illnesses on the spot and used diet, herbs, and drugs in treatment.

Soon, two Empiric Schools developed, based on Rational Thought. One was the Cynidian school, which focused on *diagnosis*, and the Coan(Cos), based on *prognosis*, which was the concept of Hippocrates.

Hippocrates' beliefs were founded on *rational deduction*. Using past facts and present findings, he formulated the future of illness based on current symptoms and previous observed experiences.

Hippocrates was the first to treat patients, not diseases, a practice comparable to the modern biographical approach to patients' problems.

That one man, Hippocrates, is responsible for the formulation of this new attitude is unlikely. Yet there is no question that a man named Hippocrates lived and was a great and innovative physician. He is said to have been responsible for the sunburst of Greek medical intellect.

Hippocrates was born in a small village among the olive trees at Cephalos, on the Island of Cos, about 460 BC. This was about two thousand years after Imhotep. Hippocrates was regarded as an errant Asklepiad (a follower of Aesculapius). He dispelled the influence of Gods as a cause of illness and, for example, insisted that epilepsy, prevalent then, was not a sacred disease but had a natural cause. He believed in the four humors of the body: blood, phlegm, yellow bile, and dark bile. Illness was thought to be due to an imbalance of these four humors. To Hippocrates, a sick person was no longer a sinner, but rather a human being going through a phase of life history consisting of an illness.

Hippocrates often taught students in the shade under the branches of a plane tree in the center of the village of Cos, on the Island of Cos. He diagnosed and treated patients by the Empiric method. Past history was important to him as were the observed findings; prognosis was based on these findings. Disease, according to Hippocrates, was caused by a natural process and influenced by environment, climate, diet, and a person's way of life. Hence Hippocrates was a psychiatrist well before his time. He was also a surgeon who often performed delicate surgical procedures. From his writings, come such terms as chronic, exacerbation, relapse, resolution, crisis, paroxysm, and convalescence. His aphorisms (concise statements of basic principles) are now published in the *Corpus Hippocraticum*. In the 72 volumes attributed to him are excellently described case histories: striking, well-recorded examples of gout, epilepsy, tetanus, and even hysteria.

Greek philosophers and physicians established a foundation of thought that has survived the ages. Socrates taught man to think; Plato accepted that all

knowledge came from within and that the brain was man's most notable tool; his pupil, Aristotle, restored medicine to the kingdom of biology and contended that everything eminated from the outside and was absorbed through the senses and perception. Galen, who lived in the second century AD placed medicine on a firmer scientific base.

In summarizing this account of how religion and medicine were so intimately associated by ancient physicians, we should not lose track of the fact that similar beliefs persist two thousand years later. One of my predecessors to the Chair of Medicine, Dr. Samuel Claggett Chew, was once asked by a medical student if he ever invoked help from the Divine Being in his diagnostic practice. Chew responded, "Yes, but not until I have exhausted all of the talents given me by the Divine Being. "

Let us finish by commenting that the Hippocratic Oath is a great code based on the Golden Rule that to be a good physician, one must first be a good and kind man or woman. In keeping with the first principle of medical ethics proposed by Hippocrates, 400 BC:

> A physician should be an upright man, instructed in the art of healing-modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all of the actions of his life.
>
> Conduct - Obligation - Character

There has been an evolution of religious belief and the philosophy and ethics of medicine in parallel with the art, science, and practice of our nobel profession. Not one, but many civilizations, have contributed to the development of this knowledge. Each civilization borrowed from the other, tested an accepted theory or method of practice, and altered it in a way to better perfect the means of diagnosis, treatment, and prevention. From Hammurabi and Imhotep there were two thousand years until Hippocrates, and from Hippocrates to Pasteur, Koch, and Fleming, there were another two thousand years.

Everyday Applications

Perhaps one of the greatest needs of any human is to avoid loneliness and his preoccupation with time, more time, and what to do with it. A failure in communication between humans is a failing which has not been satisfied. Every man, woman, and child needs the recognition that he or she is a person and the assurance that his or her mind is in communication with the people and the world. It is here the clergy and the physician of medicine have a common bond. Often, their mission can be accomplished with the troubled person, not only through words of comfort but also often by simply sitting in silence. This was vividly demonstrated by the illustration of a relationship between patient and physician.

> Never will I forget how you stood by my bed, not on rounds, but voluntarily. You patiently reached into your heart and selected words not to mislead, but to enlighten. My problem and my pain were also yours. Together, in that room, there was the feeling that we looked up to God and were going to accept his judgment. Here, man and medicine and religion were in harmony (Wolfe, A. Man, medicine and the ministry. Bull NY Acad Med 1961; Aug.

Medicine's strongest affinity has always been with the clergy since priestly medicine was first practiced well before the coming of Christ. In colonial America, the religious leader often was also the medical practitioner. The Reverend Cotton Mather was in the forefront of convincing the public that Jennerian smallpox vaccination was the appropriate way to prevent smallpox. There is no question that religion needs medicine and medicine needs religion. The National Academy of Religion and Mental Health was organized in 1954 to stress the role that clergymen of any denomination can play in helping the emotionally disturbed.

In the intimate contact with the patient's fears, anxieties, and forebodings, the physician's outlook and approach are similar to those of the minister or priest. So often patients struggling with mental and physical maladjustments open the recesses of their minds only to the physician. Along these lines lie the most important foundations of success for the physician: the achievement and restoration of health and proper function to those sick in body and mind. It is difficult to estimate at what point medicine ends and the application of faith begins; more likely the two are never seprate. It is along these avenues that the properly oriented physician will derive the greatest happiness from his or her medical work. Francis Peabody understood this premise so well in his remarkable paper, The Care of the Patient.

The Christmas story has been told many times. The Wise Men traveled by camel or donkey for many miles at the pace of two and a half miles per hour. They brought gold, frankincense, and myrrh to the Christ child to show their respect and honor. Gold is traditionally symbolic of the kinship of Christ; frankincense signifies the priesthood of Christ; myrrh signifies the healing power of Christ. In biblical days, this healing power created the concept of Christ as a doctor; hence the term Christus Medicus. When this idea waned, healing power was supposed to be transferred to the saints.

The recognition and acceptance by the minitry and the medical profession of different but similar approaches to daily problems can only help enhance the ability of members of both professions to work together toward a common goal. In their ministry to the sick, the clergy try to give a patient a sense of purpose and meaning to his or her life and to living in

general. The properly oriented physician uses this same approach.

There is an amusing anecdote regarding our common goal to avoid sin. The anecdote is based on President Coolidge's well-known characteristic of being a man of few words. President Coolidge met an old acquaintance one Sunday morning after church service. After an exchange of greetings, the man asked the president what had been the topic of the minister's sermon that morning. The president replied that the minister had spoken for an hour on the subject of sin. "Well, what did he say in all that time about sin?" the man asked the president. Mr. Coolidge replied, "He was against it."

In the broad sense, the complete separation of medicine and the ministry is impossible since they relate to the inseparable physical, mental, and moral condition of man.

There is a final common goal toward which both the ministry and medicine should devote all their energy: to help people use more effectively those inner forces that enable them to survive and to function at an optimal level.

The basic human qualities of the physician and the clergyman can always be employed not only to discover the mystery of man but also to seek to enlighten him. As physicians we may fail in our obligation to man if we allot to the minister, priest, or rabbi only the task of conducting a suitable burial ceremony.

In our relationship to patients, should the person always be told that he has cancer, that he has multiple sclerosis or any other degenerative disease, and the inevitable course the illness will take? It is important, ethically, medically, and religiously speaking, to deal truthfully. It is also important to discover a way of transmitting the truth without risking the possibility of unduly injuring the individual emotionally, spiritually, or even physically in the process.

In life, as in proximity to death, closer cooperation between medicine and the ministry is desirable. They come together usually at the time of approaching death, when time is a limiting factor to effective action or understanding. In this moment of crisis and in the face of death we deal with the patient's hope for life and his or her rejection of death. At this point the patient has a distinct right for guidance from either the ministry or medicine. Only the patient can decide this issue; medicine and the ministry can only provide guidance and mutual understanding.

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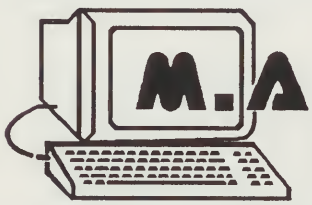
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Board of Physician Quality Assurance Actions

In the Matter of
Juan M. Chavez MD
Before the
Maryland Board of
Physician Quality Assurance

Background

On November 23, 1988, the Board of Physician Quality Assurance (the Board) charged Juan Chavez MD (the Respondent) with committing prohibited acts under the Medical Practice Act of the Health Occupations Article ("HO") *Annotated Code of Maryland*, 1988, 14-504(a)(1) and (a)(3). Specifically,

> (a) Subject to the hearing provisions of 14-505 of this subtitle, the Board, on the affirmative vote of a majority of its full authorized membership, may reprimand any licensee, place any licensee on probation, or suspend or revoke a license if the licensee:
> (1) Fraudently or deceptively obtains or attempts to obtain a license for the applicant of licensee or for another;
> (3) Is guilty of immoral or unprofessional conduct in the practice of medicine.

Respondent also was charged under 14-504(6) of the Maryland Medical Practice, Title 14, Health Occupations Article, *Annotated Code of Maryland*, 1987, which permits the Board to impose sanctions on a licensee who:

> Is convicted of or pleads guilty or nolo contendere with respect to a crime involving moral turpitude, whether or not any appeal or other proceeding is pending to have the conviction or plea set aside.

A hearing on the charges was conducted on December 23, 1988. At the hearing, it was agreed by counsel that the allegations contained in the charging document were accurate and not subject to dispute. Counsel for the Respondent agreed to the adoption of the allegations contained in the charging document as Findings of Fact, and therefore the only arguments presented at the hearing were directed toward the recommended disposition in this case.

No witnesses testified under oath although Respondent addressed the Hearing Officer. The State and counsel for the Respondent argued the issue of disposition and sanction.

On December 28, 1988 the Hearing Officer submitted a proposed decision to the Respondent and the State that contained Proposed Findings of Fact, Proposed Conclusions of Law and Recommendation. Respondent filed exceptions on January 5, 1989. The State filed no exceptions. On January 25, 1989 a quorum of the Board heard argument from the State and the Respondent. The Board had previously reviewed the transcript, the exhibits, and Respondent's exceptions. After considering the record and the arguments as presented, the Board finds as follows:

Findings of Fact

The Board finds the following facts by clear and convincing evidence:

1. At all times relevant to these charges, the Respondent was and is licensed to practice medicine in Maryland.

2. On March 4, 1987, Respondent entered a plea of *nolo contendere* to the crime of Sexual Offense in the Fourth Degree, in violation of Article 27, Section 464C, *Annotated Code of Maryland*, in the District Court of Maryland. On May 22, 1987 the Honorable John Themelis granted Respondent probation before judgment with thirty-six (36) months supervised probation, a psychiatric evaluation, a $100 fine, and payment of court costs.

3. The facts of the case mentioned in paragraph two (2) above are set forth as follows:

> On October 30, 1986, a fourteen (14) year old girl (the victim) and her friend came to Respondent's office at 2613 Eastern Ave., Baltimore, MD seeking birth control pills. After Respondent dispensed the birth control pills, he placed his hands on the victim's buttocks, grabbed her buttocks, and moved his hands in the direction of her vaginal area. Respondent kissed and licked the victim's neck stating:" I love you, I'll give you $20 if you come down next week by yourself, so I can lick you. Don't tell anybody about this."

4. Respondent's actions described in paragraph three (3) above constitute immoral conduct and occurred in the practice of medicine.

5. On June 1, 1988, Respondent pled guilty to Medicaid Fraud in violation of Article 27, Section 230C, Annotated Code of Maryland, in Criminal Information, 28815204, *State of Maryland v. Juan Chavez MD*. The Honorable Edward J. Angeletti sentenced the Respondent to one (1) year suspended, five (5) years supervised probation, $5,000 fine, payment of the court costs ($115) and $18,000 restitution to the Maryland Medical Assistance Program, Department of Health and Mental Hygiene, to be paid in installments of $300 per month starting June 1, 1988.

6. Medicaid Fraud in which the value of the money, services, or goods involved is $500 or more is a felony.

7. The Board sent a renewal application for Respondent on or about July 1, 1988.

8. Respondent applied for renewal of his license to practice medicine on or about September 1, 1988. In the renewal application, Respondent answered No to question number four (4) which is set forth as follows:

> Since your last registration, have you had any felony convictions?

9. On the renewal application, Respondent signed his name to the following statement:

> I affirm that the information I have given in this application is true and correct to the best of my knowledge and belief.

Conclusions of Law

Based on the clear and convincing evidence presented and the stipulated findings of fact *supra*, the Board concludes that Respondent committed the following prohibited acts:

Fraudently or deceptively obtains or attempts to obtain a license for the applicant or licensee or another; HO 14-504(a)(1);

Guilty of immoral ... conduct in the practice of medicine; HO 14-504(a)(3); and

Is convicted of or pled guilty or *nolo contendere* with respect to a crime involving moral turpitude, whether or not any appeal or other proceeding is pending to have the conviction or plea set aside; HO 14-504(6), Annotated Code of Maryland 1986.

Order

Based on the foregoing Findings of Fact and Conclusions of Law, it is this 8th day of February 1989, by the unanimous vote of the Board considering this case

ORDERED that Respondent's license to practice medicine in the State of Maryland be REVOKED; and be it further

ORDERED that Respondent IMMEDIATELY turn over to the individual serving this Order his original and current license; and be it further

ORDERED that this become a Final Order.

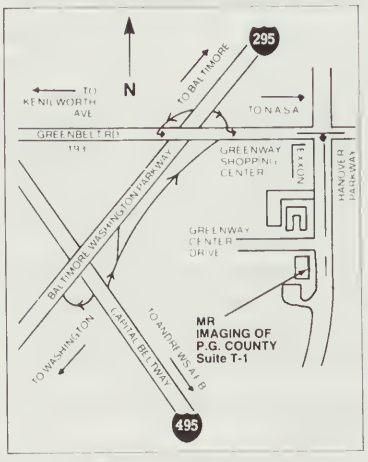
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On instruction of the Council of the Medical and Chirurgical Faculty of the State of Maryland, Findings of Fact, Conclusions of Law, and Order will be published in the Maryland Medical Journal. ■

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Many chapters in the book focus on deciding how to practice, selecting the place to practice, setting up an office, clearing legal hurdles and securing professional assistance, and on the kinds of insurance a physician should carry.

Major helpful tips and guidelines will be found on efficiency and office operations, running the business side of practice, billing and collections, personnel management, and personal financial planning.

Throughout the book are various forms, charts, and checklists that may be reproduced and used by office staff.

The Business Side of Medical Practice is available for $30 (20 percent discount for AMA members) from the American Medical Association, Book and Pamphlet Fulfillment, PO Box 10946, Chicago, IL 60610-0946 or call 1-800-826-6895 with VISA or Mastercard to order.

Diabetes Education Program Wins Recognition Award

The American Diabetes Association has presented its coveted Recognition Award to the Outpatient Diabetes Education Program of Suburban Hospital, Bethesda, MD. It is the first facility in Maryland to receive this award.

Of the 110 program plans in the United States submitted to the American Diabetes Association for recognition, only 57 programs had been approved by March 1, 1989.

The Outpatient Diabetes Education Program at Suburban Hospital is available to all diabetic patients and their spouses. It is also available to Suburban Hospital inpatients if their physical condition permits attendance and their personal physicians request it.

Physicians may receive further information about the program by calling 301-530-3056. Joyce Hayman RN, PhD, CDE is Program Coordinator, and De Witt E. De Lawter MD is Medical Director. ■

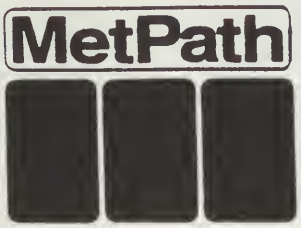
Safety-Belt-Use Law

The article on the Safety-Belt-Law in the April 1989 issue of the *Maryland Medical Journal* does not cover a breast condition that is ever increasing: breast reconstruction using implants. In accidents, these implants may be subjected to undue compression by a properly positioned seat belt.

The patient should be given an exemption for the use of the shoulder strap portion of the seat belt. The patient also should be made aware of the subsequent possible increased chance of injury as a result of not using the shoulder strap.

The physician would do well to have a properly drawn form stating the above exemption, the reasons for the exemption, and a witnessed patient's signature on the form. This form should be a permanent part of the patient's office record.

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nondisciplinary\ nän-ˈdis-ə-plə-ner-ē\ adj(1598) 1a: not of or relating to discipline. b: not designed to correct or PUNISH breaches of discipline.

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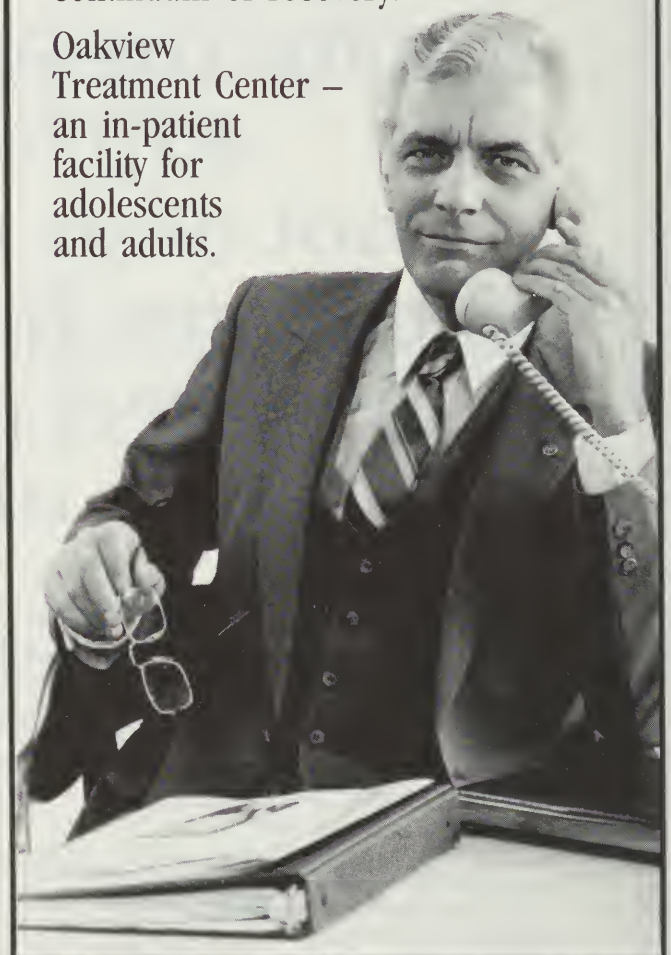
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Miscellaneous Meetings

Sept 8-9 **Current Controversies and Techniques in Congenital Heart Surgery**, sponsored by the Section of Thoracic and Cardiovascular Surgery of the University of Nebraska College of Medicine, Omaha. Precedes the Society of Thoracic Surgeons Annual Meeting in Baltimore. Info: T. Young 301-328-2399.

Sept 11-13 **NIH Consensus Development Conference: Treatment of Destructive Behaviors in Persons with Developmental Disabilities**, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: B. McChesney 301-468-6555.

Oct 18-19 **Legal Medicine for Health Care Providers**, Holiday Inn of Bethesda. Info: American Registry of Pathology, Armed Forces Insitute of Pathology, Washington, DC 20306-6000 (202-576-2978/2980).

Shady Grove Adventist Hospital Grand Rounds, 9901 Medical Center Drive, Rockville (301-279-6000).
Jul 6 - Update on Urologic Oncology
Jul 13 - Alcoholic Patients and Doctors
Jul 20 - Overuse Injuries in Young Athletes
Jul 27 - Review of Common Malpractice Claims in Ambulatory Medical Practice

The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

Jul 17-21 **Control of Biohazards in the Research Laboratory**. Info: B.S. Tepper 301-955-5918 or J. Corn 301-955-2609.

Sep 11-13 **1989 Interventional Neuroradiology**. Fee: $550 physicians, $350 residents, fellows (with verifying letter), and technicians; 26.5 AMA Cat I credits. Info: F. Boling 301-955-2959.

Sep 8-10 **Diagnostic Ultrasound in Obstetrics and Gynecology and Abdomen**. Fee: $325 physicians (3 days), $250 nurses & sonographers (3 days); 6 AMA Cat I credits, ASRT credit, ACOG cognates pending. Info: D. Heydinger 301-955-2959.

Oct 11-12 **Vernon B. Mountcastle Symposium - Neuroscience: Integrative Functions**. Fee: $50; 12 AMA Cat I credits. Info: 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. **Info: C. Kearney.**

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.
Basic Practicum in Diagnostic Ultrasound: Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.
Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.
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Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

University of Maryland School of Medicine

CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.

Sept 15	**Current Concepts in Ophthalmology: Ninth Annual Clinical Conference**, Hyatt Regency Baltimore. Fee: $60; 6 AMA Cat I credits.
Sept 19-20	**Behavioral Pediatrics Conference**, UMAB MSSTF Auditorium. Fee and credits TBA.
Sept 28	**Fifth Annual University of Maryland Contact Lens Symposium**, Sheraton Inner Harbor Hotel, Baltimore. Fee: $160; 12 AMA Cat I credits.
Sept 21-23	**Dean's Conference #1**: UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25; AMA & AAFT credits available.
Oct 26	**Dean's Conference #2**: UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25; AMA & AAFT credits available.

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University of Maryland Dean's Conferences - Held monthly, these conferences are designed for the Family/General practitioner and the internist. Each conference highlights a different clinical department, placing emphasis on the practical methods currently being used and researched at the University of Maryland. **Dates: September 28, October 26, November 30, and December 13, 1989; and January 25, February 22, March 22, and April 26, 1990.**

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

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Dec 14-15 - Provider ■

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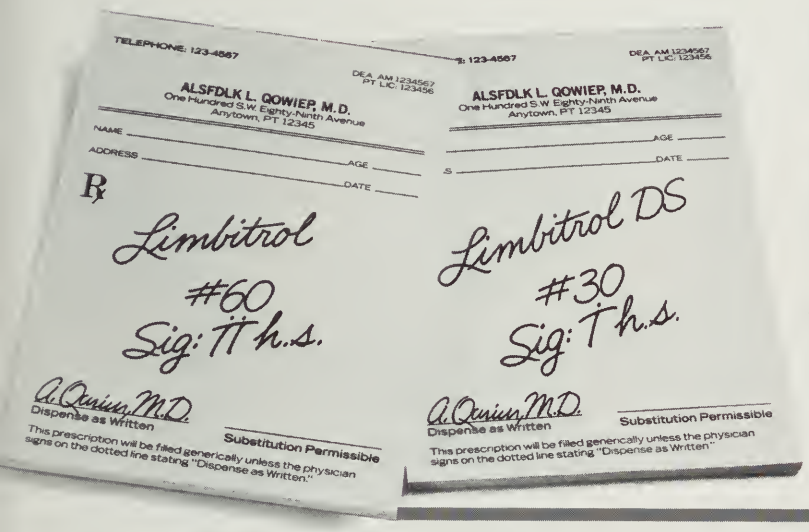
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References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner JP, *et al: Psychopharmacology 61:*217-225, Mar 22, 1979.

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Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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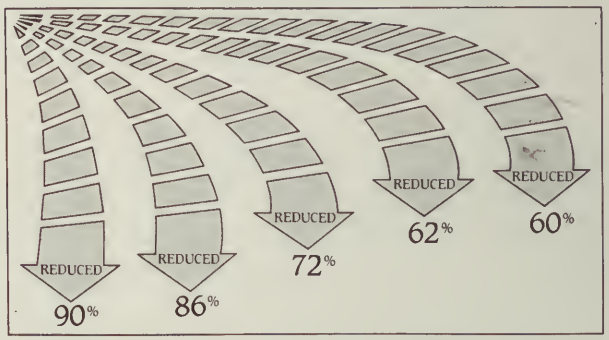
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- First-week reduction in somatic symptoms[1]

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*Patients often presented with more than one somatic symptom.

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Medical and Chirurgical Faculty of Maryland

Cover Story

Med Chi's President 100 Years Ago
John Morris MD (1824-1903)

In 1888-1889 Dr. John Morris presided over the Medical and Chirurgical Faculty. An outstandingly active physician, Dr. Morris set a high standard of involvement and dedication for his fellow members during his term. His annual address at the April meeting was on a topic of no small concern at the time, "Crime: Its Physiology and Pathogenesis - How Far Can Medical Men Aid in Its Prevention?" Dr. Morris argued that while original research was needed to help improve society, previous work should not be overlooked. He concluded by paraphrasing a quote from Chaucer: "Out of the old books comes all the new learning; out of the old fields comes all the new corn."

The 1889 annual meeting featured a stellar array of major figures in Maryland medicine who either led discussions or presented papers. Dr. William Osler presented "License to Practice"; Dr. Ralph Winslow, Chair of the Section on Surgery at the University of Maryland, also delivered a paper, "Surgery of the Central Nervous System and of the Spinal Cord"; and Professor William H. Welch, then Chair of Med Chi's Committee on Anatomy, Physiology, and Pathology, read "Hydrophobia, Viewed in the Light of Pasteur's Recent Work."

That year the Faculty faced the continual challenge of trying to increase membership. A special Membership Committee, formed by the Executive Council and chaired by Dr. Thomas Ashby, found that the Faculty membership was made up almost exclusively of Baltimore City residents. This situation had developed due to an "excessive and burdensome" membership fee of $10 per year, which county physicians viewed as too high for a group that "meets only once a year."

Dr. Ashby and his committee first recommended that the membership fees be lowered to $5 for Baltimore residents and $2 for county members. Many members viewed this as reasonable, particularly since the American Medical Association was charging only $5 for membership.

The Committee's second recommendation was to hold a semiannual meeting on the fourth Tuesday in October in "some one of the county seats." After lenghty discussion the recommendation was accepted, and the Faculty's first semiannual meeting was held that same year.

Other problems the Faculty faced included providing heat for the Library Rooms and resolving ethical questions related to physicians' advertising. Several doctors found it "inconvenient" (substitute "too cold") to use the library during the winter months. As to the advertising: it was thought that advertising by members of the Medical and Chirurgical Faculty "placed the Faculty in a bad light." This concern was referred to the Ethics Committee for a final decision. Unfortunately, the records for the Ethics Committee for the 1880s have been lost, and one can only speculate on the outcome of the Committee's review of the problem.

It seems the more things change, the more they stay the same.

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AUGUST 1989
Selected Communicable Diseases in Maryland in 1988
(Continued from July 1989)

HEPATITIS A (308)
6.7/100,000 (U.S. - 10.9/100,000)

Hepatitis A has been steadily increasing since 1984 (Figure 2), when the incidence rate was 1.4/100,000. Ninety-four (30.5%) cases in 1988 were part of 12 outbreaks that occurred in Montgomery (4), Prince George's (4), Caroline (1), Charles (1) and Howard (1) counties, and Baltimore City (1). Montgomery County, with 36.0% of the cases, had the highest incidence (15.7/100,000).

The male to female ratio was 1.5 to 1. Seventy percent (70.5%) of the cases were white, 6.2% black, 2.3% Asian, less than 1% were Hispanic, and the race of 59 (19.4%) individuals was unknown. More than half (52.6%) were young adults, equally represented in the age groups 20 to 29 and 30 to 39 years. The diagnosis in 90.3% of the patients was confirmed with a positive hepatitis A IgM test result.

A known or suspected source of infection was reported for 135 (43.8%) cases: 41 (30.4%) had contact with a confirmed or suspected hepatitis A case, 36 (26.7%) had consumed potentially contaminated food, 17 (13.0%) had been exposed abroad or were refugees from foreign countries; illegal drug use was noted as a possible source for 17 patients (13.0%) (compared to 12.2% in 1987). The exact drug(s) and route of administration were not established. Outbreaks of hepatitis A involving drug addicts were not reported.

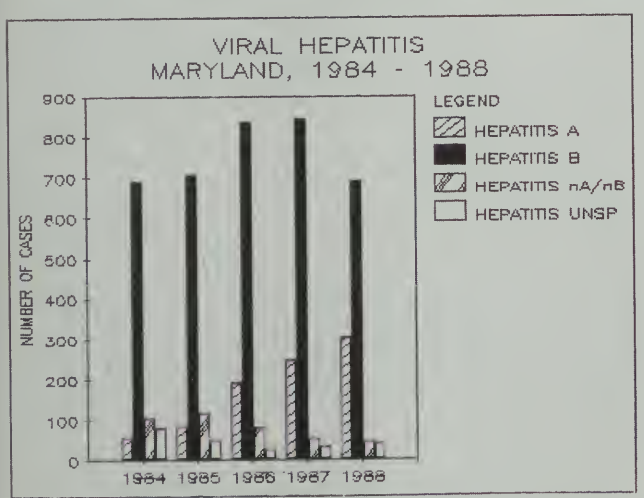


Figure 2

HEPATITIS B (691)
15.1/100,000 (U.S. - 9.2/100,000)

The incidence rate of acute hepatitis B decreased in 1988 (Figure 2). However, a few counties showed a rate increase: Harford County had an almost 150% increase, Cecil County doubled its cases, and Frederick County had a 33.3% increase. A declining rate was observed in Baltimore City and Wicomico, Howard, and Prince George's counties.

The male to female ratio was 1.8 to 1.0. The highest incidence rate (55.0/100,000) was seen in men and women between 25 and 29 years of age (28.2% of the cases). Thirty two precent of patients were black. In Baltimore City 56.0% were black, the male to female ratio was 2.2 to 1; almost half (47.6%) were 20 to 29 years old and an additional 27.2% were in their thirties.

Information on the probable source of infection (during the 6 months prior to onset of illness) was available on 298 (43.1%) of the reported cases. Sources were as follows:

122 (40.9%) known or suspected IV drug use,
70 (23.5%) contacts of cases of hepatitis B,
17 (5.7%) homosexual or bisexual males,
16 (5.4%) employed in a medical or dental field,
15 (5.0%) heterosexual contact,
13 (4.4%) other percutaneous exposures,
10 (3.4%) blood transfusions,
11 (3.7%) hospitalization, including 5 (1.7%) with surgery,
7 (2.3%) kidney dialysis,
7 (2.3%) refugees from Asia and Africa,
6 (2.0%) attended by dentist or oral surgeon, and
4 (1.3%) other unspecified exposures.

HEPATITIS NA/NB (49)
1.1/100,000 (U.S. - 1.0/100,000)

The rate of hepatitis nA/nB has been declining since 1985 when the incidence rate was 2.7/100,000 (Figure 2). For most of the cases, an attempt was made to confirm the diagnosis by excluding acute hepatitis A and B through obtaining negative hepatitis A IgM and hepatitis B core IgM test results.

Harford County reported 6 cases and showed the highest incidence rate (3.6/100,000) in the state. Almost half of the patients (47.0%) were between 20 and 39 years of age, followed by 39.0% that were 50 and over.

Suspected source of infection during the 6 months prior to the onset of illness was reported for 22 (44.9%) cases: 12 had received blood or blood products by transfusion, 4 admitted illegal drug use, 2 noted visits to dental offices, 1 had surgery, 2 had other percutaneous exposures, and 1 was on kidney dialysis.

LEGIONELLOSIS (30)
0.7/100,000 (U.S. - 0.4/100,000)

Half of the legionellosis cases occurred in the winter months. Cecil County had the highest incidence (7.1/100,000), followed by Washington County (4.3/100,000). The median age of the affected individuals was 64.5 years (range 13 to 94 years). The male to female ratio was 1.1:1.

Six of the patients were reported to have other illnesses (cancer or diabetes), organ transplantation, or immunosuppression. Three persons reportedly acquired the illness during admission to health care facilities.

The diagnosis of 87% of the cases was confirmed through isolation of *Legionellae* (from lung tissue, bronchial or nasopharyngeal washings, pleural fluid, or sputum), serological tests (IFA titer rise to 1:128 or convalescent titer 1:256), or DFA stain with not less than 6 fluorescent bacilli per slide.

Seven deaths were reported, 16 patients recovered, and the outcome for 7 cases is unknown.

LYME DISEASE (55)
1.2/100,000 (U.S. - N.A.)

Reporting of Lyme disease, even though not required by law, increased 140% over 1987, when 23 cases were reported. Anne Arundel County reported 11 cases, followed by Montgomery with 9 and Baltimore County with 8. Charles and Talbot counties reported 5 cases each; Baltimore City and Prince George's County, 3 each, and Calvert, Queen Anne's and Wicomico counties, 2 each. One case was reported from Cecil, Frederick, Harford, Howard, and Kent counties.

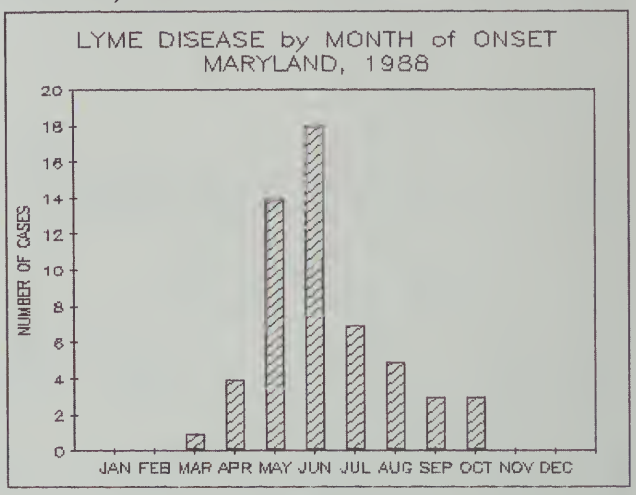


Figure 3

The male to female ratio was 1:1. The median age of cases was 24 years (range 1 to 76 years). Nineteen cases (34.5%) were children 10 years old or younger; ten (18.2%) were between 21-30 years old. Fifty-three (96.4%) were white. Onset of illness by month is shown in Figure 3.

Definite tick bites were reported in 29 (52.7%) cases and possible tick bites or exposures in 13 (23. 6%). Five of the definite tick bites were reported to have occurred outside of Maryland, but in general, the exposures were reported to have been within the jurisdiction of the residence.

Fifty (90.9%) patients were reported with the characteristic rash (erythema migrans), and six (11.0%) had neurologic symptoms [Bell's palsy (4) and meningitis (2)]. Cardiac signs (palpitations, tachicardia, or EKG changes) were reported in 3 (5.5%). Arthritis in one or more joints was reported in 10 (19.2%) cases. Affected joints included ankle (5), knee (4), and less frequently hip, shoulder, wrist, elbow, and finger joints.

Nine patients (16.4%) were hospitalized. Forty-five (91.8%) of the 49 cases for which treatment information was available were treated with tetracycline or penicillin. Treatment for Lyme disease is most effective early when the rash occurs; prompt treatment should reduce the likelihood of late symptoms.

Lyme disease has been included in the ammended list of reportable diseases in the Code

of Maryland Regulations submitted for approval.

MALARIA (27)
0.6/100,000 (U.S. - 0.4/100,000)

With the exception of 2 malaria cases with unreported country of exposure, the rest (92.6%) acquired malaria in Africa (22), India (2) and the South Pacific (1). Patients with diagnosed *Plasmodium falciparum* (18) were exposed in Africa, those with P. vivax (2) in Ethiopia and in the South Pacific, and the exposure history of 1 person with *P. ovale* was not available. The *Plasmodium* species for 4 patients was not reported. Twelve patients had had malaria prophylaxis, 8 did not, and for 7 this information was not available.

MEASLES (19)
0.4/100,000 (U.S. - 1.2/100,000)

Measles increased to 19 cases in 1988 compared to 10 cases in 1987 (Figure 4). Seven patients were part of 2 outbreaks, one at a col-

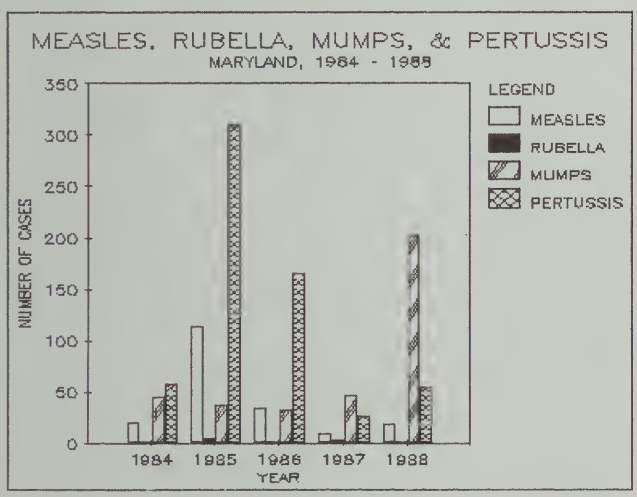


Figure 4

lege and one at an elementary school. Almost half (47.4%) of the cases were 10 to 19 years old. Six cases were international imports. Sixteen (84.2%) cases were non-preventable and 3 (15.8%) were preventable.

MENINGOCOCCAL INFECTIONS (57)
1.2/100,000 (U.S. - 1.1/100,000)

The incidence of meningococcal infections has been steady in the past 10 years with the number of cases ranging between 44 and 66 (median, 55 cases) (Figure 5).

During 1988, 12 of the 24 county health departments had at least 1 case. Prince George's County was leading with 15 cases and the highest incidence rate (2.2/100,000) in the State.

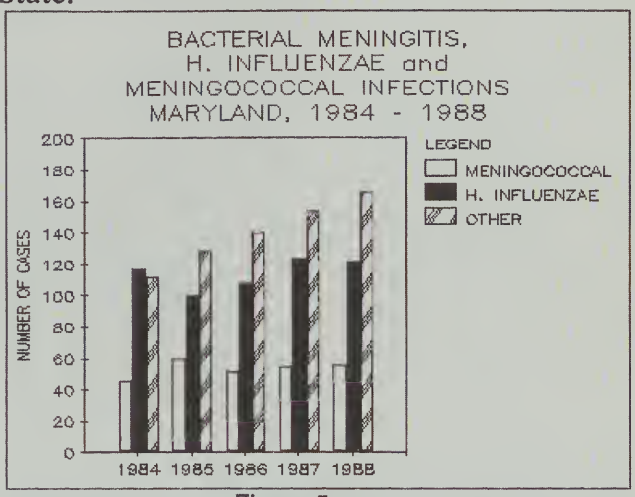


Figure 5

Almost 40% of the cases had onset of symptoms between January and March. The male to female ratio was 1:1. Sixty-five percent of cases were white, 25% black, approximately 4% Hispanic, and 2% Asian. Children, younger than 3 years of age, represented 42.1% of the cases; 15 were 1 to 11 months old, none were newborns (less than 29 days). Eleven cases (19.3%) were 15 to 24 years old.

Thirty-five (61.4%) presented with meningitis, 19 (33.3%) with meningococcemia and 3 had pneumonia. Seven infections were caused by *N. meningitidis*, serogroup B, 7 by serogroup C, 1 by W135, and the serogroup of 42 was either not determined or not reported.

Five (10%) of the 50 patients for whom outcome was known, died. These included a 40 year old Hispanic male who was also HIV positive, a 16 year old female with serogroup B meningitis, resistant to rifampin, a 21 year old female with meningitis and trauma injuries, an 11 year old girl with serogroup C, and a 29 year old female with serogroup B meningitis.

MUMPS (204)
4.5/100,000 (U.S. - 1.9/100,000)

After 6 years of low incidence rates (Figure 4), mumps increased five fold over the 6 year average of 41 cases / year.

Almost one quarter (23.5%) of the patients had onset of symptoms in May, and an additional 16.7% in April and June. School-aged children accounted for 81.9% of the cases, with

81 (39.7%) cases occurring among 10 to 14 year olds. One large outbreak, predominantly in Prince George's County, accounted for 111 (54.4%) of the cases. Higher attack rates for mumps were seen among unimmunized children.

Maryland Immunization Law does not at this time require proof of immunity against mumps for school or day care attendance; however, because of widespread use of measles-mumps-rubella or single-antigen mumps vaccine, over 80% of school children have been immunized against mumps. Mumps vaccine is recommended for all children, adolescents, and adults (especially those born after 1957) who are susceptible; that is, for those who have not had live mumps vaccine after the first birthday, have had physician diagnosed mumps, or mumps titer indicating immunity.

PERTUSSIS (56)

1.2/100,000 (U.S. - 1.2/100,000)

The incidence of pertussis doubled in 1988 compared to 1987 (Figure 4), due to 2 outbreaks. A total of 170 suspected cases of pertussis were reported in 1988, but only 56 met the clinical definition of pertussis as of June, 1989 (including one para-pertussis case and 3 delayed reports from 1987). Six (10.7%) were confirmed by DFA only, 2 (3.6%) by culture only, and 4 (7.1%) by both culture and DFA. Cases ranged in age from 1 month to 35 years. Fifty one (91.1%) were less than 9 years of age and 5 (8.9%) were 9 years or older. Forty-three (76.8%) of the cases had less than three doses of DTP vaccine.

Cough was the most frequently reported symptom, occurring in 55 (98.2%) of the cases, 52 (92.9%) had paroxysmal cough, 37 (66.1%) vomiting and cough, 25 (44.6%) whoop, 19 (33.9%) apnea, 13 (23.2%) cyanosis, and 6 (11.7%) had pneumonia on chest x-ray. Nineteen (33.9%) were hospitalized for 6 to 9 days.

ANIMAL RABIES (338)

The 338 rabid animals reported in 1988 represent a 24.9% decrease from the 450 cases reported in 1987. Raccoons comprised 255 (75.4%) of these cases, with a spillover into foxes (21 or 6.2%), skunks (19 or 5.6%), groundhogs (5 or 1.5%) and deer (1 or 0.3%). Rabies in domestic animals, which represents a greater risk to humans, was reported in 13 cats (3.8%), 2 cattle (0.6%) and 1 goat (0.3%) (Figure 6).

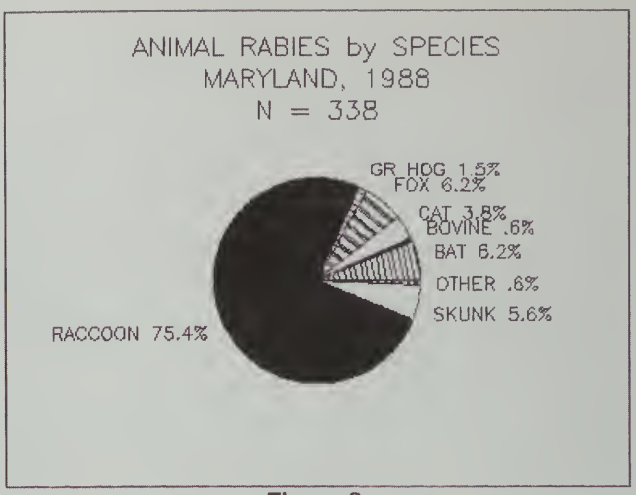


Figure 6

Rabies was confirmed in 21 bats (6.2%). Bat rabies is a separate epizootic cycle and continues to be the only rabies reported south of the Chesapeake and Delaware Canal in Maryland.

The 16 domestic animals are noteworthy. Vaccines are available for dogs, cats, sheep, cattle, and horses; only dogs and cats are required by law to be vaccinated. Although 12 of the 13 rabid cats were being fed or cared for by someone, none were vaccinated against rabies. Sixty-six people received post-exposure rabies prophylaxis following exposure to the rabid cats. Since 1981, when the raccoon rabies epizootic spread to Maryland, cats have accounted for most of the rabies cases in domestic species (67 cats, compared to 16 cattle, and 6 dogs). There are several explanations. Cats are generally more nocturnal than dogs and would be more likely to come into contact with rabid raccoons. Also, cats are often allowed to roam without supervision and may be less frequently vaccinated than dogs.

All wild animals and stray domestic animals should be avoided to reduce the risk of rabies exposure. If an exposure does occur, wild animals should be captured and the brain tested for rabies. Dogs, cats, and farm animals must be quarantined for 10 days following a bite or scratch. If the animal is healthy at the end of the 10 day period, the victim was not exposed to rabies and does not need post-exposure rabies prophylaxis.

To be concluded in the September issue of the Newsletter.



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LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state. The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and policies Governing the Practice of Medicine in Maryland.

■ ■ ■

In the June issue of the *MMJ*, the Medicolegal Code of Cooperation was reproduced as a guide for attorneys and physicians. On March 20, 1989, the Council adopted "Guidelines To Physicians on Court Subpoenas and Testimony." The co-sponsoring State and Baltimore City Bar Associations have also adopted the following Guidelines, the use of which may reduce occurrences of misunderstandings and abuses of the subpoena:

Guidelines to Physicians on Court Subpoenas and Testimony

In criminal and civil cases where medical care is necessary either for the victim of a crime or the injured party (plaintiff) in a civil matter, the medical record is an important source of information during trial, and its admission into evidence may be stipulated by mutual agreement of the prosecuting and defending attorneys. While additional personal testimony by the physician *may not* be necessary if the record is admitted to evidence, testimony from a treating physician may, under certain circumstances, be either necessary or desireable in the proper representation of the client (in a civil matter) or the State (in a criminal matter). This may be true even when the treating physician has no independent recollection, whatsoever, outside of the documented medical record. Cases where physician testimony may be obtained by subpoena occur mainly as follows:

1. The medical record is illegible, incomplete, or otherwise inadequate.
2. Counsel cannot stipulate to the admission of the medical record into evidence, requiring the presence of the physician to provide the information.
3. Strategical purpose. One or both of the attorneys may believe that the jury, or panel, will not give sufficient attention to written testimony due to variations in reading skill, lack of attention to written materials, etc; or the attorney may wish to impress the jury by calling the physician as an expert witness, or may wish to have the physician physically present to answer questions that might be asked of him or her, directly, by an Arbitration Panel in a Health Claims proceeding.*

If the physician wishes to reduce, as much as possible, the number of times he or she is subpoenaed to give factual testimony, he should attempt to recognize cases where criminal prosecution may result (e.g., battery, rape, child abuse, or personal injury), and make a special effort to see that the medical record is legible, does not contain abbreviations or jargon, and is complete regarding details which the physician might be called into court to add. Examples of the latter are descriptions of the patient's emotional state and clothing, and whether the results of the physician examination are consistent with the patient's story (e.g., if a bruise resembles a coathanger). It may be wise to dictate and edit records of potential legal importance before signing them, to assure legibility, completeness, and correctness. The Maryland State Police form for sexual assault examinations provides a useful format for dictating assault records in general, which can be further supplemented as needed by relevant medical information.

Further, in cases involving personal injury (as opposed to illness), i.e., an automobile accident, a slip and fall, etc., the physician should, in preparing the medical record, recognize the possibility that the injury will result in litigation and that the patient's condition at the time of his or her treatment may be important to the damage aspect of the claim. Therefore, complete and legible charts are of vital importance. The civil courts are particularly interested in a complete history of the facts causing or preceding the injury, an assessment of the patient's condition (including details of all complaints made by the patient and findings on examination), and a determination as to proposed course of treatment.

* There is the question of whether, under these circumstances, the physician is offering testimony as a mere fact witness or as an expert witness so as to entitle him to charge the attorney or patient calling him to testify a fee for expert testimony. This is a controversial area. In criminal cases, expert witnesses subpoenaed by the State will be reimbursed as provided by State laws which apply to individial counties, so that some counties reimburse expert witnesses while others do not. In civil matters, the question of expert witness fees should be resolved with the attorney before the testimony is given. See *Medico-Legal Code of Cooperation* and the *Guidelines Concerning Expert Physician Testimony and Reports.*

A subpoena is a legal document issued by a Court of this State, at the request of one of the parties to the litigation. It is a written order directed to a person and *requiring* that person's attendance at a particular time and place to take the action specified. Assuming the subpoena is properly served, attendance is mandatory at the time and place designated, or at another time mutually agreeable to the witness, the attorney requesting the subpoena and the Court. In general, service of the subpoena may be made upon the physician by a sheriff or by a competent private person (18 years of age or older), including an attorney of record, but not by a party to the action. Proper service is made by serving the individual physician with the documents (subpoena, etc.), or by serving an agent authorized by appointment or by law to receive the subpoena and related documents for the individual.

Please be advised that the medical professional at any stage of his or her medical training may be called upon, by subpoena, to give factual medical testimony and/or expert testimony. This specifically includes interns, residents, nurses and para-professionals including but not limited to CRNAs, physicians assistants, respiratory therapists and physical therapists. A treating physician will be permitted to testify as to the medical treatment rendered by him regardless of the level of training or experience he had achieved at the time the treatment was rendered. It will, however, be up to the court (or panel chairman in an arbitration setting), to determine whether the medical professional subpoenaed has sufficient background and training to qualify as an *expert witness* in the area of specialty in which he is offered.

The Courts of this State have decided that the mere fact that someone has graduated from medical school does not necessarily qualify that individual as an expert. The Court will determine, on a case-by-case basis, whether the physician has gained sufficient knowledge in the specialty involved (through any source including reading and observation), so as to allow him to offer testimony that would be helpful to the trier of fact. Assuming the Court permits a physician in training to offer expert testimony, the testimony becomes admissible. It is then up to the attorneys to argue that the testimony should not be given full weight or be considered authoritative based upon the physician's lack of experience or incomplete training.

Every subpoena shall contain: (1) the name of the case, (2) the name and address of the person to whom it is directed, (3) the name of the person at whose request it is issued, (4) the date, time, and place where attendance is required, and (5) a description of any documents or other tangible things to be produced. All of this information will be of importance in handling any questions that may arise regarding the subpoena.

On motion of a person served with a subpoena to attend a court proceeding (including a proceeding before a master, auditor, or examiner) filed promptly and, whenever practicable, at or before the time specified in the subpoena for compliance, the court may enter an order that justice requires to protect the person from annoyance, embarrassment, oppression, or undue burden or expense, including one or more of the following:

(1) that the subpoena be quashed;
(2) that the subpoena be complied with only at some designated time or place other than that stated in the subpoena;
(3) that documents or other tangible things designated in the subpoena be produced only upon the advancement by the party serving the subpoena of the reasonable costs of producing them or;
(4) that documents or other tangible things designated in the subpoena be delivered to the court at or before the proceeding or before the time when they are to be offered in evidence, subject to further order of court to permit inspection of them.

A person served with a subpoena to attend a *deposition* (not a trial) may seek a protective order from the Court. If the subpoena also commands the production of documents or other tangible things at the deposition, the person served may seek a protective order or may file, within ten days after service of the subpoena, an objection to production of any or all of the designated materials. This objection shall be in writing and shall state the reasons for the objection. If an objection is filed the person receiving the subpoena need not comply until the issue is decided by the Court.

A witness served with a subpoena may be fined and physically taken into custody for failure to obey the subpoena without sufficient excuse. The witness shall be taken immediately before the court if then in session. If the court is not in session, the witness shall be taken before a judicial officer of the District court for a determination of appropriate conditions of release to ensure the witness's appearance at the next session of the court that issued the attachment.

When a physician is subpoenaed, the Medicolegal Code of Cooperation (approved jointly by Med Chi and the Maryland State and Baltimore City Bar Associations) advises prior notification of the physician by the attorney, and further recommends an "on-call" arrangement for the physician during the trials so that the physician does not need to spend the entire day idle in court, to the detriment of the physician's other patients. The Maryland Rules of Procedure governing civil matters (plaintiff v. defendant; claimant v. health care provider) do not contain a provision that requires that a subpoena be served a certain period of time in advance of the trial. The Medico-Legal Code of Cooperation should guide attorneys in this area. The Maryland Rules of Procedure applicable to criminal matters (state v. defendant) do require that the subpoena commanding a witness to testify at a criminal trial be prepared and issued at least nine days before a

trial in the circuit court, or five days before a trial in the district court, not including the day of the trial and intervening Saturdays, Sundays and legal holidays. Even in criminal matters, however, the Rules do not provide that the physician must be served within a certain period of time in advance of trial.

A physician receiving a subpoena should contact the attorney at whose request the subpoena was issued and inquire as to why the physician's presence in court is necessary and should discuss the testimony which the physician could offer. The physician should secure from the attorney or hospital copies of any and all documents that will be important to his other testimony. These materials should be thoroughly reviewed in advance of trial. The physician should bear in mind that the matter of civic duty is associated with participation in any court proceedings, and as always, the patient's interests should be kept foremost.

Physicians should, of course, keep separate and complete records of all legal cases, including a copy of the medical record, any written communications, the subpoena, the date and time that the subpoena is received (this can be jotted on the subpoena itself), and the dates, time, and content of any telephone communications. All relevant records should be brought to court by the physician when testifying (although the court should also have copies of its own, obtained by subpoena).

Physicians who have been victimized by abuse of the subpoena process, and who are unable to resolve the matter through personal action, may find further recourse available through the Medicolegal Committee.

Pending before Med Chi's Council and the Bar Associations are similar guidelines on expert/ witness testimony and reports. When adopted, these guidelines will be published in the *MMJ*. ■

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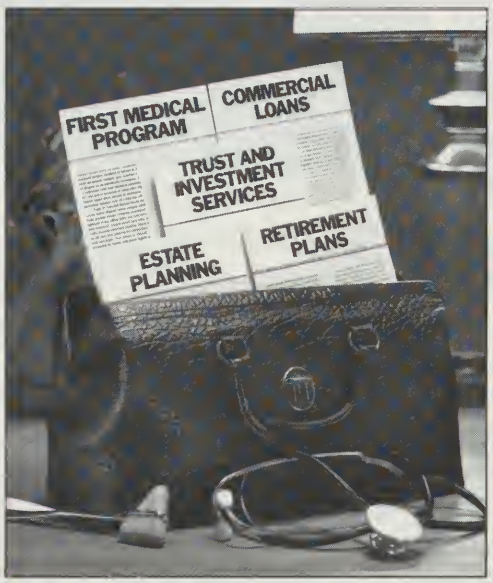
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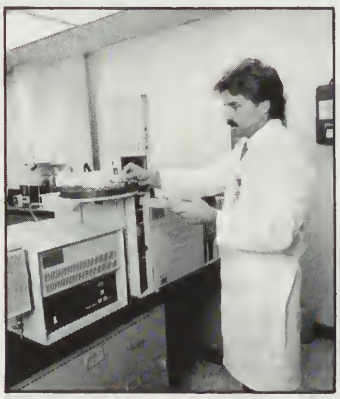
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Caring with Excellence

Executive Director's Newsletter

August 1989

Expenditure Targets

Maryland physicians are urged to inform their patients about Expenditure Targets, a new proposal in Congress that will seriously threaten the Medicare program. Expenditure Targets are government-set expenditure goals for total physicians services under Medicare Part B. If the targets are exceeded, Medicare physician reimbursement rates will be adjusted downward accordingly and across the board. The initiation of such targets would cause a rationing of care. According to the AMA, "Expenditure Targets would constitute a breach in the basic promise of Congress that the elderly and disabled should receive without delay the care that is reasonable and necessary to meet their health needs." To defeat Expenditure Targets Maryland physicians must encourage their patients to contact their congressmen and ask them to vote "no" on Expenditure Targets.

Med Chi developed the flyer on page A so that Maryland physicians can inform their patients on Expenditure Targets. The flyer contains an explanation of Expenditure Targets and provides the phone numbers of all congressmen Maryland. Physicians are encouraged to make copies to give to patients and post the flyer in their offices. For additional copies contact Betsy Newman, Public Relations for Med Chi at 301-539-0872 or in Maryland 1-800-492-1056.

Membership-Directory Listings

In September Med Chi will publish a new membership directory that will be distributed to all member physicians. Physicians are reminded that they may not legally represent to the public, in any publication, that they are a specialist in any field of medical practice unless identified as such by the Board of Physician Quality Assurance.

Application for specialty designation is open to all licensed physicians in Maryland. Physicians certified by the American Board of Medical Specialists **must apply** to the State Board and will receive identification after the State Board confirms that credential. If not certified by the American Board of Medical Specialists, the physician must complete an application outlining specific training and experience in the requested specialty. The criteria used for such evaluations were developed jointly by Med Chi and the State Board and are set forth in administrative regulations having the force and effect of law.

The advertisement on page C contains a form for physicians who have a change in their name, address, phone number or specialty. **For those physicians not registered with the state board, fill out the application for a specialist identifier on page D.**

AMA Annual Meeting

At the June 29 Meeting of Med Chi's Council, Med Chi's Delegation to the AMA reported on four important issues:

Expenditure Targets The AMA has voiced its strong opposition to Expenditure Targets and has undertaken a major campaign to inform the public about the inevitable rationing of care that will result from such targets.

RBRVS Development of a Non-Medicare Payment System The AMA House of Delegates adopted a position that it supports the development and implementation of a Medicare physician payment schedule but opposes any effort to link the acceptance of an RBRVS with any proposal that is counter to AMA policy.

Covering the Uninsured To adequately address the problem of the 37 million Americans who are uninsured, the AMA adopted the concept of employers providing health coverage.

Curtailing Prescription Drug Abuse while Preserving Therapeutic Use The AMA adopted the positions of opposing expansion of multiple-copy prescription programs, continuing to address the problems of prescription drug diversion and abuse through AMA's programs, and encouraging further research in the development of reliable outcome indicators.

Generic-Substitution Ruling

In May the Maryland Board of Pharmacy issued the following ruling: Physicians will no longer be able to write a "DISPENSE AS WRITTEN" order to require that physicians dispense the brand name drug. Maryland's Medical Assistance Program, in compliance with federal law, mandates that when a specific brand-name drug is to be dispensed, the prescriber must write in his or her own handwriting on the prescription form the phrase, "BRAND MEDICALLY NECESSARY" or "BRAND NECESSARY." Under the Maryland Pharmacy Law, Health Occupations Article, Section 12-508(b)(1) Annotated Code of Maryland, the phrase "DAW" or "DNS" will not require the pharmacist to dispense the brand name. This ruling applies to all prescriptions and was effective July 1, 1989.

Drug Summit

Med Chi participated in Maryland's first statewide drug summit held at the University of Maryland on May 31, 1989. Over five-hundred participants attended this meeting in an attempt to develop new strategies to fight Maryland's drug problem. Members of Med Chi's Committee on Drugs attended the summit and are developing resolutions aimed at ideas discussed during the summit to be presented to the House of Delegates at the Semiannual meeting in September.

Angelo J. Troisi, FACHE
Executive Director

Broken...

In 1965, Congress promised senior citizens medical care.
Now they are breaking that promise.

Today, the government is cutting costs for the Medicare program.
What's more, Congress wants to limit the amount of services offered to seniors by creating "expenditure targets" for physicians.

Expenditure targets are government-set limits on spending for needed health care. These targets could result in a limiting of services similar to the British system where age often determines whether a patient receives needed medical treatments such as renal dialysis, bypass surgery, etc.
This system is unfair and would be devastating for older Americans.

Physicians do not want to see you get less care than you need. But to protect your care, your doctor needs your help. Make Congress keep their Medicare promise.

Contact your Senators and Congressmen today!
Their names are listed on the back of this flyer.
Tell them that you are concerned about the cuts in the Medicare program and urge them to vote "No" for expenditure targets.

...Promises

Medical
and Chirurgical Faculty
of Maryland

Ask your doctor if you have any questions. Or if you need more information, please contact Med Chi's Public Relations department at 301-539-0872 or in MD 1-800-492-1056.

Help Protect Our Medical System

Call your Senators and Congressmen today and say:

"I am concerned about the broken promises of Medicare and as my representative, I want you to vote **"No"** on *Expenditure Targets.*"

Maryland Senators

Sen. Paul S. Sarbanes- 202-224-4524 Sen. Barbara A. Mikulski- 202-224-4654

House of Representatives

Allegany County
Beverly B. Byron (D-6th District) 202-225-2721

Anne Arundel County
Tom McMillen (D-4th District) 202-225-8090

Baltimore City
Benjamin L. Cardin (D-3rd District) 202-225-4016
Kweisi Mfume (D-7th District) 202-225-4741

Baltimore County
Helen Delich Bently (D-2nd District) 202-225-3061
Benjamin L. Cardin (D-3rd District) 202-225-4016
Kweisi Mfume (D-7th District) 202-225-4741

Calvert County
Roy Dyson (D-1st District) 202-225-5311

Caroline County
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Carroll County
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Cecil County
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Wicomico County
Roy Dyson (D-1st District) 202-225-5311

Worcester County
Roy Dyson (D-1st District) 202-225-5311



Are you *lawfully* a specialist?

Physician specialists in Maryland, ***even*** those who are nationally board certified, are required by Maryland law* to obtain approval from the State Board of Physician Quality Assurance before calling themselves a specialist of any kind.

If you ***have not*** obtained such approval, Med Chi ***urges*** you to complete the form on the back of this page and return it as soon as possible to the State Board of Physician Quality Assurance. The Board will process this application and determine if you may call yourself a specialist under Maryland law.

Whether or not you already have obtained this approval, please fill out the card at the bottom of this page and return it to Med Chi before September 1st. It will be used to update your information as listed in Med Chi's Directory.

** Section 14-704 of the Health Occupations Article (COMAR 10.32.09, Identification of Medical Specialties)*

This form *must* be completed for Membership Directory *and* specialty designation purposes. Return the completed form to Med Chi, 1211 Cathedral Street, Baltimore, MD 21201.

Name _____

Address _____

City State Zip _____

Telephone _____

Specialty(s) _____

Board Certification(s) _____

Specialty Society(s) _____

☐ I have obtained approval from the State Board of Physician Quality Assurance for my specialist identification.

☐ Approval from the State Board of Physician Quality Assurance for my specialist identification is pending.

Medical Specialty Indentification Application

Name:_____

_____

Address:

_____

_____

Maryland Medical License No.:

_____

Social Security No.:
Provision of SSN is voluntary

_____

Medical specialty/subspecialty requested:

_____

_____

_____

Return this form to:
Board of Physician Quality Assurance of Maryland
4201 Patterson Avenue
P.O. Box 2571
Baltimore, MD 21215-0002
Telephone:(301)764-4777

Medical Specialty Identification

The Board of Physician Quality Assurance has adopted COMAR 10.32.09 Identification of Medical Specialties, in order to implement Health Occupations Article 14-704, which provides for the identification of medical specialists by the Board. **A physician may not represent to the public in Maryland that he is a specialist in any field of specialized medical practice unless identified as a specialist in that field by the Board.**

There are two ways to become identified as a medical specialist. They are:

A. Specialty Board certification.

If you qualify as a medical specialist because of specialty board certification, please enclose a $5 fee and photocopy of certification.

B. Evaluation of credentials by a Medical Review Committee.

If you are not American Board of Medical Specialties (AMBS) specialty or subspecialty board certified but wish to be credentialed as a medical specialist in any field of medicine through evaluation of credentials, education, and experience, please enclose a $20 fee ($15 evaluation, $5 identification). The evaluation form will then be sent to you.

From time to time we plan to showcase articles written by physicians who are experiencing computers first hand. By doing this we hope to address areas of expertise in all aspects of the computer. If you have something you would like to share with other physicians such as programs you have written, software you have mastered, or tricks you have learned the hard way, send them along with your name, address, and phone number to Bruno Mattiello, Director of Computer Services, 1211 Cathedral Street, Baltimore, MD 21201.

Our first guest writer is Dr. William Parnes, a member of the Medical and Chirurgical Faculty's Computers in Medicine Committee. His article deals with DeskTop Publishing for the Medical Office.

DeskTop Publishing for the Medical Office A Brief Overview

William Parnes MD

DeskTop Publishing (DTP) is one of the catchwords of personal computing, but traditional publishing is usually not the end product of the activity, and the equipment rarely fits on a desk top. The term has come to refer to a heterogeneous group of activities having as their common theme a printed product, usually with a combination of text and graphics; a single individual controls the activity.

The two themes are important. Individual control represents a major alteration in the way most printed material is generated. The traditional process of designing and producing printed matter usually involves a writer and possibly an editor, an artist, a typesetter, a printer, and often others. The final product may be excruciatingly slow to develop, especially if it is complex with multiple proof copies and corrections.

Using the DTP model, an individual can complete the entire process to the point of volume printing. Art work may be produced electronically. Type may be set in a variety of styles. Photographs may be reduced to bit-mapped images. And all may be laid out, ready for the printer.

Forms for office use may be designed, printed, and later modified easily by the person most concerned with their appearance and content, the user. Flyers, informational newsletters, presentations, magazines, newspapers, and books may all be produced. Not every "publication" will be nominated for a design award, but at least it will reflect the need of the user.

Getting Started: Equipment

The first purchase is a computer. If one is already available, the decision about what to use is simple. If a computer purchase is being contemplated, unless the only use of the system will be for DTP, other considerations should dictate the choice of a system. DTP software exists for virtually all major computer systems. The Macintosh may have started the "revolution," but IBM PC systems and clones, properly equipped, and the Amiga have their proponents for DTP use.

Quality output (the printer) probably is of more importance. The common dot-matrix printer produces copy, that although sometimes of high quality, generally is not adequate as a master for volume printing. Laser printers generally cost more but produce output that for some applications may be used as the master for printing. Phototypesetters produce extremely high quality output but are not useable for normal office printing and are expensive.

Scanners, which convert paper images to electronic form, are not a necessity but allow the inclusion of drawings or photographs produced by conventional means in the computer generated output.

Software For most new computer users, software should dictate the hardware to be purchased. Since most DTP software is purchased after a system has been bought for other purposes, the hardware will determine the software choices.

For simplest purposes, a painting or drawing program may suffice. Graphic elements and some text may be mixed on the same page by these programs, but they work most effectively to produce single-page documents such as flyers or forms.

Word processors, which increasingly have the ability to include some graphic elements in the body of the text, are good choices for longer, primarily text documents and have the advantage of being multipurpose. Books have been successfully produced with this category of software (examples of word processors aimed at DTP use are Microsoft Word, WordPerfect, and FullWrite).

For newsletter, magazine, or newspaperlike layout, a true layout program is the best choice for flexibility, allowing considerably more freedom in design than the word processors. Examples of programs include PageMaker, Ventura Publisher, Ready-Set-Go, and Quark Xpress.

Firmware A text of page design is a wise choice for any first-time publisher trying to produce a document for distribution or general use. Although DTP allows freedom to experiment, there are certain tried-and-true principles of page design worth knowing as starting points.

Cost

As with all computing endeavors, DTP has no upper limit on expense. Given that the computer is available, a Laser Printer with 300 dot per inch resolution may cost $2,000 **without** the PostScript Language page description interpreter or $5,000 with it. Phototypesetters generally exceed $15,000. Laser printers, and higher quality printers, are often available for use at service bureaus that charge for their use either by time or by the number of pages produced.

The software may cost less than $100 or several thousand dollars depending on the system and the program chosen.

Who

Each individual has to decide on his or her needs. DTP is not for everyone, but if you have a computer and have produced meeting announcements or forms for your office, you already may be a practitioner of DTP.

Virtually every medical office uses forms. Personalizing them becomes easier with the tools of DTP. Informational brochures containing precisely what you want to say to your patients may be produced without the necessity of having to explain your ideas to people not expert in medicine. High-quality announcements for mailing or posting in an office may be produced easily.

Conclusion

DTP is an extension of many personal computing ideas. In a medical office with the tools of DTP there is opportunity to personalize the printed materials and to enhance physician-patient communication. Many of the techniques require some practice and a knowledge of design, but the results are generally worth the effort. ■

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Regional Chemotherapy: Pharmacokinetic Basis and Clinical Applications

The pharmacology of anticancer drugs and biologic behavior of tumors are most important factors in comprehending the basis of regional chemotherapy. Of all disciplines of pharmacology, pharmacokinetics makes the greatest impact on therapy of cancer. With the knowledge of pharmacokinetics, decisions on the route of administration, dosing schedule, and effective drug level in body fluids can be made scientifically sound. These decisions are critical in cancer chemotherapy since the therapeutic margin between the antitumor effect and normal tissue toxicity is extremely narrow.

In infectious disease chemotherapy, the goal is to keep adequate concentration of the antibiotic above minimal inhibitory concentration but below the toxic level to host. This goal cannot be practically achieved with systemic chemotherapy because of narrow therapeutic margin. In solid tumors confined to one organ or region of the body, however, a high concentration of chemotherapeutic drug could be achieved by regional chemotherapy without systemic toxicity. The modern developments in and safety of infusion catheters, arterial pumps, intraperitoneal catheters and isolation-perfusion devices using heart-lung machines enhances the safety of regional chemotherapy. Understanding of pharmacokinetic principles of the regional chemotherapy and biologic behavior of tumors has increased its us.

The premise of regional chemotherapy is based on controlling the cancer while it is confined to one region of the body. Furthermore, by achieving tumor regression in localized disease, the local and regional recurrence and subsequently systemic spread of the cancer could be controlled. Similarly, tumor regression achieved by regional chemotherapy could render the unresectable tumors resectable.

Basic Pharmacokinetics

Pharmacokinetic principles are specifically based on variation of the drug concentration *vs.* time as a result of absorption, distribution, biotransformation, and elimination of the drug. Eight parameters can alter the course of regional chemotherapy:

1. *Availability of the drug (F) fraction of the drug reaching the target organ:* This is usually ideal because 100 percent of the drug reaches the target organ in hepatic or other regional arterial infusion. However, it could be less ideal in intraperitoneal administration because of intraperitoneal adhesions.

2. *Volume distribution of the drug in the area of infused or perfused:* The drug has to be distributed evenly in organ infused. Therefore in clinical practice, arterial radionuclide infusion scans, intraperitoneal gastrograffin roentgenograms, or fluorescein injections in perfusion circuit of extremity is commonly utilized.

3. *The circulation of the organ perfused:* If the blood flow is high the "flushing" of the drug through the organ occurs in first and subsequent passes of drug. Pharmacokinetically, slowing the inflow of the arterial blood volume offers the best results. This principle is used in hepatic dearterialization and with biodegradable starch microspheres intraarterial chemotherapy for hepatic malignancies and tourniquet infusion chemotherapy in recurrent melanomas.

4. *Initial and terminal half-life of drug:* The ideal drug should have a short initial half-life for better distribution. The drugs with short terminal half-life are preferred in isolation perfusion circuits in melanoma of extremity.

5. *Binding of the drug to plasma protein:* Ideal drug used for regional chemotherapy should have loose binding to plasma so that tissue penetration could be easily facilitated.

6. *Clearance of the drug by metabolism and excretion:* The drugs that must be activated by other organs to get an active metabolite such as cyclophosphamide cannot be used for regional chemotherapy. Ideally the drug must be metabolized and cleared in nonactive form by the target organ. FUDR and 5FU are good examples for hepatic arterial chemotherapy.

7. *Effective and toxic concentration of drugs in the target organ vs. concentration in systemic circulation:* This principle can be best achieved in regional perfusion where complete isolation of circulation of the part of body is possible by using tourniquet and regional arterial-venous control.

8. *Urinary excretion of the unchanged drug:* The drug that is not metabolized by the target organ should be easily excreted by the kidneys, thereby avoiding systemic toxicity.

Among many methods of regional chemotherapy administration, the most widely used methods (intraarterial infusion of liver, extremity, and head and neck areas; isolation perfusion chemotherapy of extremity; intraperitoneal administration; and portal vein infusion of the liver) will be discussed in future communications.

MUKUND S. DIDOLKAR MD
Associate Professor of Surgery and Oncology

Tumor conferences are held weekly on Tuesday between 8 and 9 a.m. in Room N13E28 at the University of Maryland Medical System. Physicians are welcome to attend this open meeting and to present cases and pathological slides. Call the number below by noon Monday to be placed on the schedule.

Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, MD (301-328-5224). ■



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Pro Update

Maryland's PRO is the Delmarva Foundation for Medical Care, Inc. (DFMC).

Many physicians have expressed concerns regarding PRO actions and communication problems. To help Maryland physicians better understand the federally regulated PRO requirements and how the review-denial-appeals process works, the Maryland Medical Journal, in cooperation with Delmarva, publishes PRO Update in an attempt to define and clarify these issues, often by using case examples to illustrate general topics. We welcome readers' comments regarding the impact of these regulations on the quality of care delivered to patients.

JOHN A. SINGER MD, Chairman
Medical and Chirurgical Faculty
Peer Review Organization Monitoring Committee

Case Example with a Confirmed Quality Problem

There are two main categories of review: Quality Assurance and Utilization Review. Each case selected for review undergoes what is referred to as a "full-menu" review, covering both quality and utilization issues. We present a case demonstrating an instance in which there was an identified quality problem but no utilization concern was found.

Clinical Course Mrs. Bland, a 66-year-old female, was admitted on January 12, 1989 to a local hospital from a long-term care facility for shortness of breath. She had been hospitalized one month prior for hyperkalemia, ventricular tachycardia, seizure, and renal insufficiency.

Patient had a history of congestive cardiopathy, ventricular aneurysm, MI, hypertension, macular atrophy, and right mastectomy. Mrs. Bland was admitted to the CCU with probable end-stage congestive cardiomyopathy and possible sepsis, possible new MI. She was given oxygen and IVs were started in her left hand (Cefobid through Heparin lock), left foot (D5.2 Saline with KCL), and right hand (dopamine drip).

During the first 12 hours her mental status improved, her output improved, and her temperature returned to normal. BUN began to drop very gradually.

From January 12-14, the patient was closely monitored and her condition appeared stabilized. On January 14 the attending physician left town, to return on 01/17/89. He wrote orders for his partner to cover for him.

At 3:40 am on 01/16/89, Mrs. Bland complained of discomfort in her right hand. Nursing service noted her right hand and fingers "remain swollen - swelling seems to have increased." Warm compresses were applied to the IV site, and it was noted that there was good blood return and was no redness. The patient's hand was elevated.

At 9:15 am on 01/16/89, the consulting cardiologist made rounds and was "made aware of right hand edema." The order was written to "maintain IV sites" and the physician's progress notes written at that time state "BUN down to 55, no complex arrythmias. Right forehand - fingers swollen from IV infiltration and ? Dopamine." At 12:15, the hand was again noted to be edematous. Warm compresses and elevation were continued. At 6 pm it was recorded that the right hand was slightly reddened over the edematous area. At 9 pm nurses noted that hand and fingers remained swollen, warm, and darkened, and the above treatment was continued.

At 3 am on 01/17/89, the patient complained of discomfort above the IV site. It was noted there was no redness, but the area "is slightly firmer than earlier." The IV site "still has good blood return, but the IV is discontinued." At this time the nurse's notes state, "as the dressing was removed, a small piece of skin was pulled off. The sight was cleansed and Op-site applied." The dopamine drip was placed where the Heparin lock had been located on the left hand. The patient's arm and hand were noted to be swollen, dark, and red at 6 am. The other two IVs remained patent. The patient's attending physician made rounds that morning 01/17/89 at 8. He examined the hand and saw it was discolored and blistering and gave Mrs. Bland a subcutaneous injection of Regitine mixed with saline. Warm compresses were applied to the elevated hand for the rest of the day. At 4 pm, the nurses documented that the area of edema was increasing.

A plastic surgeon saw the patient in consultation on January 18. At that time "no apparent skin loss" was noted, and conservative therapy was recommended. The surgeon recommended continuation of cephalosporin to prevent cellulitis, and bedside ROM exercises. That day, it also was noted the patient was alert, her PO intake increasing, she had no angina, no dyspnea, and her output was down.

On 01/19/89, the skin on Mrs. Bland's hand began sloughing. Her cardiac, pulmonary, and renal functions continued to improve, but the conservative treatment rendered to her right hand did not resolve the tissue damage. Over the course of the next two weeks, the extent of the problem became evident as Mrs. Bland's skin continued to slough. It finally became apparent that a full thickness of skin loss had occurred.

On 02/04/89, the patient was taken to the OR for debridement and skin graft. She tolerated the proce-

dure well and was returned to the long-term care facility in stable condition on 02/06/89.

The Review Process On 03/08/89, the hospital submitted a complete bill to Blue Cross of Maryland. After the claim was paid, the billing data was transmitted to the PRO's data processor.

On 04/03/89, 1989, Mrs. Bland's case was identified for review by random selection. The PRO notified the hospital's medical records department to provide a copy of the medical record.

The medical record was reviewed by the nurse reviewer on 04/14/89. Every day of the hospital stay was found to be acute, and no utilization problems were noted. However, Health Care Financing Administration (HCFA) generic screen 6, "Trauma Suffered in the Hospital," was met. The case was referred to a physician advisor for further review for a possible quality problem. (Note: The generic screen review process will be discussed in next month's PRO Update.)

The physician advisor reviewed the medical chart and expressed concern about two points. First, he thought it would have been more appropriate to move the IV site to a large vein as soon as possible. Supplying dopamine in a small hand vein through a small catheter for 5 days without changing the IV site was believed to be a possible quality problem. The second issue was that the patient's hand had been swelling for 3 days prior to the discontinuation of the IV site, but apparently it was discontinued only after the skin began to slough.

On 04/21/89, a letter was sent to the patient's attending physician describing the DFMC physician advisor's concerns. The attending physician was invited to provide additional information within 20 days.

On 04/29/89, the attending physician responded in detail with the following information:

1. The consulting cardiologist had agreed with the dopamine therapy when the course was initiated.
2. There had been no evidence of IV site problem on January 12, 13, and 14, before he went out of town and had his partner cover.
3. The cardiologist was to see the patient over the weekend as well.
4. The cardiologist was aware of the right hand edema on 01/16/89 and ordered the nursing staff to maintain the IV site.
5. When the partner made rounds shortly after the cardiologist saw Mrs. Bland, he was not made aware of the problem.
6. As the appearance of the IV site worsened throughout the day, there is no notation that a physician was called.
7. The site was discontinued by the nursing staff at 3 am on 01/17/89 and the dopamine line was placed in the previous Heparin lock.
8. When the attending returned at 8 am the area was blistered and discolored. He immediately injected the patient with Regitine intradermally.
9. This case had been discussed with the Director of Nursing for CCU. While there is no specific IV Dopamine routine, the general policy for peripheral IV sites is that they be changed every 48 hours, unless the nurse requests an extension from the physician. This extension is to be reflected in the orders. It is a nursing responsibility to maintain IV sites.

The attending believed that Mrs. Bland's case represented a breach in nursing policy. He thought the cardiologist, when he made rounds, probably was not aware the line had been in the same site for four days when he wrote the order to maintain it.

The attending stated he believed it was inappropriate to consider him liable for the adverse occurrance when he was away during the critical time period. He acknowledged the case had been referred for review to the QA Department and the Nursing Department of his hospital.

On 05/08/89 this additional information was reviewed by the physician advisor at the Foundation. The decision was to write to the cardiologist, the Director of Nursing, and the QA Committee requesting additional information on any action taken.

Responding on 05/22/89 the consulting cardiologist provided additional information that on 01/15/89, he had worked with the nursing staff to try to move the IV sites on Mrs. Bland, but the attempts were unsuccessful. This had not been recorded in the medical record. He believed the right hand had been slightly swollen on admission due to previous right mastectomy. Since there was excellent blood return at the time of his visit on 01/16/89 and no skin changes were noted, he did not feel a change was warranted. After he made his rounds, he was not notified of the changing appearance of the IV site as the day progressed.

The Quality Assurance Committee responded on 05/26/89 with essentially the same information provided by the attending physician in his original response.

These additional responses were reviewed by the Foundation's physician advisor on 06/05/89, who believed this case represented a Level 3 quality problem (medical mismanagement with significant adverse effect for the patient). He thought the nursing department was responsible for the problem because they did not notify the physician of the worsening condition of the IV site in a timely fashion. On 06/09/89, the nursing department of the hospital was notified of the Foundation's findings. The case was then entered into the quality tracking data system; this computer data base "tracks" problems both by responsible physician and hospital department in terms of severity and type of confirmed problem. Quarterly profiles of problem patterns are generated and further interventions taken accordingly.

PRO Update is contributed by the Publications Committee of the Delmarva Foundation for Medical Care, Inc. (Donald Harting MD, MPH, Chairperson; Carol Lewis MPH, ScD; and Jan Melhunek MHS) in cooperation with the Med Chi Peer Review Organization (PRO) Monitoring Committee, John A. Singer MD, Chairperson. ■

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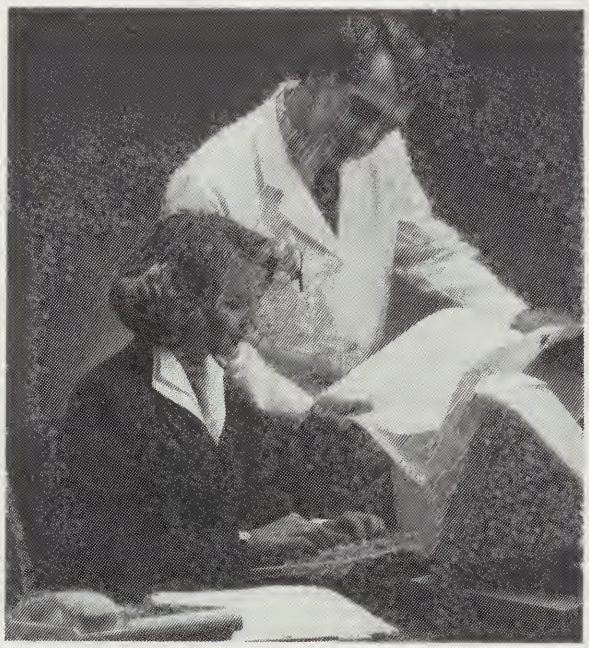
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One Minute With Diabetes

Diabetes and Impotence

Doctor, my gun has run out of bullets. What is my problem?

This 60-year-old man has had noninsulin-dependent diabetes mellitus (NIDDM) for about five years and a long history of ethanolism with only an occasional slip in recent years. He has had three marriages and several live-in companions between marriages. He has been a heavy smoker and chronically overweight.

Libido or sexual desire usually is not diminished in the diabetic male, while impotence can be a frustrating and very real problem. An impotent male is forever grateful to a physician who takes an interest in his problem or makes a referral to a suitable diagnostic center rather than saying something like "You have had your period in the sun, learn to be satisfied in the shade."

Etiology of Impotence

Organic - 85 percent
- *Neurologic* - diabetes mellitus, pelvic trauma, pelvic surgery, cord trauma, demyelinating lesions
- *Vascular* - arteriosclerosis, pelvic surgery, pelvic trauma, veneous shunting
- *Postsurgical* - prostatectomy, radical cystectomy, abdominal perineal resection of rectum and anus
- *Drugs* - alcohol, tranquilizers, antihypertisnive agents, antidepressants
- *Hormonal* - low serum testosterone, high serum estrogen, hypercortisolemia, hyperprolactinemia
- *Other* - carcinoma of the prostate, aging

Psychologic - 10 percent
Idiopathic - 5 percent
Combined etiology - ? percent

Treatment

Evaluation Tools

History and physical examination

Laboratory studies:
CBC, biochemical profile, serum FSH & LH, serum testosterone, and serum prolactin

Nocturnal penile tumescence monitoring

Psychological evaluation:
Multiphasic personality inventory probably is adequate

Neurologic examination

Vascular examination:
Penile blood pressure plus penile brachial index
Selective pelvic vessel arteriography
Dynamic cavernsoscopy in selected patients
Intracavernosal papaverine

Where there is no obvious organic cause for impotence, psychotherapy may be helpful. In the realm of prescription treatment, yohimbine HCl (Aphrodyne, Yocon, Yohimex), which blocks presynaptic alpha-2 adrenergic receptors, is sometimes beneficial in men with mild partial impotence.

If serum testosterone level is low, androgen is sometimes administered. Intracavernosal injection of vasoactive drugs (for example, papavarine, phentolamine, and prostoglandin E) produce erections in many impotent men by relaxing smooth muscle of the erectile spongy tissue.

Several surgical revascularization procedures allow restoration of the blood supply to the corpora. Other treatments include penile implants, suction constriction devices, external mechanical aids, and sexual partner cooperation and encouragement.

DeWITT E. DeLAWTER MD
Editor ■

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Scenes from the Technical and Scientific Exhibits at the Annual Meeting at Turf Valley.

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Minutes

Medical and Chirurgical Faculty of Maryland
Special Meeting of the House of Delegates (326th Meeting)
Saturday, November 19, 1988

The 326th meeting, a special session, of the House of Delegates of the Medical and Chirurgical Faculty of the State of Maryland was called to order at 9 a.m. on Saturday, November 19, 1988 at the Faculty Building, Baltimore, Maryland, the President, Michael R. Dobridge MD, and Secretary, Harold B. Bob MD, being present.

The following delegates (or alternates) were registered as being in attendance; (*) indicates an alternate delegate; (C) denotes Council member:

Allegany County
Sikander L. Sandhir
Wayne C. Spiggle

Anne Arundel County
Leoncio A. Ceccarelli
Thomas C. Cullis
Hilary T. O'Herlihy (C)*
Jorge B. Ramirez

Baltimore City
Donald M. Barrick
Gaylord L. Clark, Jr.
*Willarda V. Edwards**
*Albert Folgueras**
Frank A. Giargiana, Jr.
John H. Hirschfeld
*Joseph H. Hooper**
Thomas E. Hunt
Murray A. Kalish
*J. Leonard Lichtenfeld**
Raymundo S. Magno
Donald W. Mintzer
Hiroshi Nakazawa
Samuel I. O'Mansky
William F. Renner
Daniel G. Sapir
Gardner W. Smith
*David M. Solomon**
Edward L. Suarez-Murias
*Alan J. Sweatman**
Karl H. Weaver
Israel H. Weiner (C)
*Richard B. Williams**
Jack M. Zimmerman

Baltimore County
Thomas E. Allen (C)
Marianne Benkert
Albert L. Blumberg
Harold B. Bob (C)
Louis C. Breschi
Esther Edery
A. Hamid Ghaladi
Christopher M. Harvey
Paul G. Koukoulas

Carroll County
Arthur L. Rudo

Dorchester County
Paul A. Stagg

Harford County
Rose M. Bonsack

Kent County
Harry P. Ross

Montgomery County
Lawrence H. Fink (C)
*George M. Korengold**
Charles H. Ligon
Ralph E. Longway
Herman C. Maganzini
Edward S. Mehlman
John P. Nasou
Margaret T. Snow

Prince George's County
John E. Jeffrey

St. Mary's County
J. Roy Guyther (C)

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J. Frederick Hatem
Charles F. Hoesch
Leon E. Kassel
Henry P. Laughlin
Reynaldo L. LeeLlacer
George S. Malouf
John H. Mulholland
J. David Nagel
Aubrey C. Smoot
Joseph Snyder
Donald W. Wiczer
Cheryl E. Winchell
Jose M. Yosuico

Also present were members of the Faculty staff.

Roll Call

There being a quorum present, President Dobridge proceeded with the roll call of the various Nominating Committee groups, and it was confirmed that adequate representation was present as required by the Faculty Bylaws.

Motion - Mandated Medicare Assignment Means Testing

The President presented the motion adopted by the House of Delegates on September 24, 1988, which reads as follows:

> That the Delegates poll the members in their component societies in cooperation with Med Chi on the issue of Mandated Medicare Assignment and the acceptance or nonacceptance of a 'means test,' and further, that a special meeting of the House of Delegates be held in November at a date to be announced for the purpose of assuming a Med Chi position relative to Mandated Assignment and a means test.

The President announced that in compliance with the direction of the motion, a communication was mailed to members of the House on October 6, 1988, requesting a poll of their respective component membership be conducted to ascertain their opinion as to whether Med Chi should support or deny support of the establishment of a Medicare "means test" in Maryland, and to reaffirm Med Chi's position opposing Mandated Medicare assignment. The results of the poll were presented to the House as follows:

Of 26 component societies responding (prior to the meeting):

21 Opposed to Mandated Medicare Assignment and/or Means Testing
1 Abstention
1 Deferred to position of House of Delegates
3 No official responses received

House Vote

Following a brief discussion, the House of Delegates voted unanimously to reaffirm its position to **not** support the establishment of a Medicare means test in Maryland.

The President adjourned the meeting at 9:14 a.m.

HAROLD B. BOB MD, Secretary

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Minutes

Medical and Chirurgical Faculty of Maryland
First Meeting, 191st Annual Session, House of Delegates (327th Meeting)
Wednesday, April 12, 1989
Turf Valley Hotel and Country Club

The 327th meeting, first of the 191st Annual Session of the House of Delegates of the Medical and Chirurgical Faculty, was called to order at 9:30 a.m., the President, Dr. Michael R. Dobridge, and Secretary, Dr. Harold B. Bob, being present.

The following delegates (or alternates) were registered as being in attendance; (*) indicates an alternate delegate; (C) denotes Council member:

Allegany County
Sikander Sandhir

Anne Arundel County
Thomac C. Cullis
Michael J. LaPenta
Hilary T. O'Herlihy (C)
Jorge B. Ramirez

Baltimore City
Aristides C. Alevizatos
*Ian R. Anderson**
Timothy D. Baker
Donald M. Barrick
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Margaret T. Snow

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*David N. Robb**
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Queen Anne's County
John R. Smith, Jr. (C)

St. Mary's County
J. Roy Guyther (C)
Mohamed F. Lafeer

Washington County
Max E. Byrkit
Edward W. Ditto
*Randy S. Ellis**

Wicomico County
*Alex Azar**
James A. Cockey
S. Paul Kajencki

Resident Component
Marcel Salive

Student Component
William E. Venanzi

Past Presidents
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Council
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Paul Bormel
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Michael R. Dobridge
Andrew P. Fridberg
Leon E. Kassel
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Donald T. Lewers
Leslie R. Miles, Jr.
J. David Nagel
Gary L. Rosenberg
Marvin Schneider
Aubrey C. Smoot
Israel H. Weiner
Donald W. Wiczer
Jose M. Yosuico

Also present were members of the Faculty staff.

Invocation

Dr. Leslie R. Miles, Jr., Chairman of the Committee on Medicine and Religion, delivered the invocation.

Guests

The President introduced the following guests to the members of the House:

Dr. John L. Clowe, Speaker of the AMA House of Delegates
Dr. Edward Annis, former President of the AMA
Dr. J. Thomas Hulvey, President, Medical Society of Virginia

President's Remarks

The President addressed the House and expressed his appreciation for the privilege of serving as President.

Minutes Approved

The minutes of the Semiannual Session of the House of Delegates, Saturday, September 24, 1988, and the minutes of a Special Meeting of the House held on November 19, 1988, in Baltimore, having been distributed to all members and corrected and approved by the Executive Committee, were approved by the House of Delegates.

Necrology

The members of the House of Delegates rose in respect for deceased colleagues as the Secretary read the following necrology:

Allegany County

James P. Hallinan, MD	December 10, 1988
David H. Miller MD	February 22, 1989



AMA past President, Ed Annis, is thanked by Dr. Dobridge after speaking to the House of Delegates.

Anne Arundel County

J. Howard Beard MD	October 30, 1988
Narciso Del Carmen MD	October 3, 1988
Thomas E. Reichelderfer MD	July 27, 1988

Baltimore City

Maurice L. Adams MD	June 3, 1988
Meyer M. Baylus MD	March 18, 1989
William E. Beaven MD	October 28, 1988
William Fearing MD	December 31, 1988
David L. Fietzer MD	May 4, 1988
Warfield M. Firor MD	August 12, 1988
Braulio O. Franco MD	August, 1987
Herbert N. Goldstone MD	December 31, 1988
Rachel K. Gundry MD	December 19, 1988
Frederick Kyper MD	May 17, 1982
A.T. Lieberman MD	June 6, 1988
Samuel E. Proctor MD	March 3, 1989
Curt P. Richter MD	December 21, 1988
Louis M. Rudin MD	July 3, 1988
Abraham A. Silver MD	February 28, 1989
Isadore Tuerk MD	February 24, 1989

Baltimore County

Thomas G. Abbott MD	December 26, 1988
Thomas J. Brennan MD	January 16, 1989
Robert Hirschfeld MD	July 29, 1988
Robert B. McFadden MD	December 4, 1988
Keith A. Manley MD	November 23, 1988
James T. Means MD	May 1, 1988
Manuel Mercado MD	May 30, 1988
John D. Morris MD	July 23, 1988
George M. Ramapuram MD	January 7, 1989
William Vandegrift MD	May 19, 1988
Howard L. Wheeler MD	December 29, 1988

Calvert County

Elizabeth A. Spitzer MD	November 13, 1988

Carroll County

Robert F. Bell MD	April 16, 1988
Julius Chepko MD	October 20, 1988
William B. Culwell MD	October 15, 1988

Cecil County

Joseph Coudon MD	September, 1988

Frederick County

Arthur T. Brice MD	October 15, 1988
James K. Gray MD	July 31, 1987
George L. Morningstar MD	April 26, 1988

Harford County

Wallace Sadowsky MD	May 30, 1988

Montgomery County

George A. Gray, Jr. MD	February 1, 1989
Edgars Maculans MD	February 13, 1988
Thomas P. Sloan MD	May 5, 1988
Benjamin Stein MD	August 6, 1988

Talbot County

Edwin R. Ruzicka MD	January 1, 1989

Louis S. Welty MD	February 17, 1988
De G. Woodman MD	May 11, 1988

Washington County

Bender B. Kneisley MD	January 28, 1989
Dalton Welty MD	April 4, 1988

Affiliates

John H. Griffin MD	October 18, 1988
Lawrence T. Hill MD	December 13, 1987
Henry C. Reister MD	September 18, 1988
Charles W. Stewart MD	March 5, 1989

Fifty Year Member

The President advised the House that there was one 50-year member to be recognized, Dr. Isabel H. McClinton of Baltimore County. As Dr. McClinton was unable to be present, the 50-year pin and certificate will be mailed to her.

Guest Speakers

Dr. Mack Bonner, Deputy Secretary of Public Health Services of the Department of Health and Mental Hygiene, and Marilyn R. Goldwater, R.N., Director of Federal Regulations of the Department, reported on the activities within the Health Department relative to public health issues, and on the status of nursing in Maryland, respectively.

Emeritus Members

On motion of Dr. Reynaldo Lee-Llacer, Council Chairman, the following members, having received the recommendations of their component societies, were elected to Emeritus Membership:

Anne Arundel County

Margaret Anderson MD, Pasadena
John Creamer MD, Pasadena
Christine Kim MD, Annapolis
Clayton Norton MD, Severna Park

Baltimore City

Charles E. Ellicott MD, Baltimore
William H.M. Finney MD, Baltimore
John M. Gerwig MD, Baltimore
Edward L. Glassman MD, Baltimore
Edmund B. Middleton, M.D., Towson
Ernest Scher MD, Baltimore
Pearl T. Scholz MD, Baltimore
Richard A. Sindler MD, Baltimore
Alan C. Woods, Jr. MD, Baltimore

Baltimore County

Leonard C. Akman MD, Baltimore
Clarence McWilliams MD,Reisterstown
Margaret Paxson MD, Riderwood
A.N. Rahman MD, Timonium
William Rinn MD, Towson
Saul Zigel MD, Randallstown
Myra R. Zinke MD, Baltimore

Calvert County

George Weems MD, Huntingtown

Frederick County

Henry P. Laughlin MD, Union Bridge
Gerald Schipper MD, Frederick
Gordon Smith MD, Frederick

Harford County

William K. Brendle MD, Havre de Grace

Montgomery County

William H. Ferguson MD, Rockville
Seruch T. Kimble MD, Silver Spring
Jonas C. Kolker MD, Chevy Chase
James A. Roberts MD, Silver Spring
Louis H. Sluman MD, Silver Spring
Thomas M. Wilson MD, Bethesda

Prince George's County

Hugh G. Clark MD,Hyattsville
Rafael A. Delgado MD, Kensington
Leroy E. Hoeck MD, Tantallon
Herbert Insel MD, Silver Spring
Francisco Venegas MD, Chevy Chase
Richard Whelton MD, University Park

Wicomico County

Charles Bagley MD, Salisbury
Robert L. Baker MD, Salisbury
Earl M. Beardsley MD, Salisbury
Raymond Collado MD, Pembroke Pines, FL
C. Herschel King MD, Salisbury

Affiliate

Simon C. Beaudet MD, San Diego, CA
Alfred B. Dixon MD, Sunapee, NH
Erwin F. Fuerst MD, Sarasota, FL
James H. Nelson MD, Escondido, CA
Omer D. Sprecher, Jr. MD, Hagerstown



John L. Clowe MD receives Certificate of Appreciation from Dr. Dobridge.

Treasurer's Report

Dr. Jose M. Yosuico, Treasurer, made a brief report on the 1989 budget as adopted by Council and distributed to all members prior to the meeting.

Bylaws Committee Report

The President advised the members of the House that the "consent calendar" procedure would be used for the report of the Bylaws Committee. Following a review of the issues of the report by Dr. Alex Azar, Chairman of the Bylaws Committee, Items 1, 2, 3, 4, 5, 6, and 9 were extracted for discussion.

Dr. Azar, on behalf of the Bylaws Committee, moved adoption of bylaw amendments, Items 7 and 8 of the report, which were adopted unanimously, as follows:

Item 7. Proposed Bylaw Amendment to Liaison Committee with Third Party Carriers - ADOPTED

Amend Article XI, Section 13 (Liaison Committee with Third Party Carriers), by substituting for it the following new Section 13:

> Section 13. A Committee on Managed Care and Third-Party Liason consisting of not less than (7) members shall be appointed by the President, who shall designate the chairman. Its charge shall be to monitor developments involving managed systems of health care delivery at the local, state and national levels. It shall seek resolution to problems and complaints raised by physicians involving health care maintenance organizations regarding quality of care and patient disposition in the hospital or private setting. It shall also seek resolution of problems and complaints raised by physicians regarding arbitrary, impractical, unreasonable, or unpleasant practices and procedures of third-party carriers. The committee shall not attempt to adjudicate individual physician fees or charges, and is not empowered to discuss fee schedules or other matters that would involve illegal actions under state or federal antitrust regulations. This charge does not include liaison currently engaged in by the liaison committee with the Medical Assistance Program.

Item 8. Proposed Bylaw Amendment to Dissolve the Committee on Physician Assistants as recommended by Executive Committee - ADOPTED

Amend Article XI, Section 24 (Committee on Physician Assistants), by striking it in its entirety, as follows:

> Section 24. A Committee on Physician Assistants of at least three members shall be appointed annually by the President who shall designate the Chairman. The Maryland Academy of Physician Assistants (MAPA) shall submit names of Physician Assistants to the President for consideration as ex-officio members of this committee. At least one Physician Assistant shall represent the MAPA Board of Directors. In addition, the Legislative Aide for MAPA shall represent it as an ex-officio member. Physician nominees shall be submitted by MAPA to the President for consideration. These physicians should currently supervise, have supervised in the past, or work or have worked in association with Physician Assistants. The committee shall have as its duty the monitoring of developments in the Physician Assistant profession at local, state and national levels and the dissemination of such information as it obtains to the House of Delegates, appropriate Faculty committees, component societies and individual members of the Faculty. The committee may make recommendations to the Faculty's governing bodies, appropriate Faculty committees and component societies.

Dr. Azar, on behalf of the Bylaws Committee, moved adoption of the following bylaw amendment, Item 1 of the report which, after debate, was rejected by the required 2/3 vote of the House:

Item 1. Proposed Bylaw Amendment to Provide Voting for Emeritus Members in the Council - REJECTED

Amend Article II, Section 5 (Emeritus Members), following the words "They shall have the rights accruing to associate members" by inserting the words,

> and they shall have the right to serve on the Council with voting privileges.

Dr. Azar, on behalf of the Bylaws Committee, moved adoption of the following bylaw amendment, Item 2 of the report, which, after debate and amendment, was adopted by the required 2/3 vote:

Item 2. Proposed Bylaw Amendment to Establish a Committee on Specialty Societies - ADOPTED AS AMENDED

Amend Article XI (Committees), by inserting the following new Section 35, subsequent sections automatically being redesignated:

> Section 35. A Committee on Specialty Societies composed of representatives of Maryland specialty societies as recommended by the specialty societies (and as identified by the Council) shall be appointed annually by the Faculty President, who shall also appoint the Chairman. Each specialty society shall be authorized one designee and an alternate, who shall be members of Med Chi. The committee shall review issues concerning interdisciplinary and multidisciplinary problem areas of medical practice as they relate to each specialty. The Committee shall present issues to the Council for adoption, thereby lending the full force of organized medicine within the State of Maryland to an issue which may affect only one specialty. The Committee shall select from its membership, seven delegates (and seven alternate delegates) as representatives to the Faculty's House of Delegates, and one member to serve on the Faculty's Council.

Dr. Azar, on behalf of the Bylaws Committee, recommended adoption of Item 3 of the report, which, after debate and amendment, was adopted by the required 2/3 vote:

Item 3. Proposed Bylaw Amendment to Clarify Council Composition- ADOPTED AS AMENDED

Amend Article VII (Council), Section 1, by substituting for it the following new section:

Section 1. The Council shall be composed of the elective officers of the Faculty, the immediate past-president, the delegates to the American Medical Association, the deans of medical schools within Maryland, representatives of component medical societies, and a representative of the Committee on Specialty Societies who shall serve for a term of one year.

Following withdrawal of the request for extraction of Item 4, Dr. Azar, on behalf of the Bylaws Committee, recommended adoption of Item 4 of the report, which was adopted unanimously:

Item 4. Proposed Bylaw Amendment to Include Members of the Committee on Specialty Societies in the House of Delegates - ADOPTED

Amend Article VI (House of Delegates), Section 5, by rephrasing the first sentence to read

The members of the House of Delegates, each of whom shall have one vote (past-presidents excepted), shall consist of:

and by inserting the following new subsection (f), all subsequent subsections being redesignated:

(f) Seven delegates selected by the Committee on Specialty Societies, and one alternate delegate for each of the seven delegates. Alternate delegates shall take no part in meetings unless sitting for a delegate. Delegates and alternate delegates shall serve for a term of one year.

Dr. Azar, on behalf of the Bylaws Committee, recommended adoption of the following bylaw amendment, Item 5 of the report, which, after debate, was rejected by the required 2/3 vote (27 ayes, 57 noes):

Item 5. Proposed Bylaw Amendment to include Vice-Presidents as members of the Executive Committee - REJECTED

Amend Article VIII (Executive Committee), Section 1, following the words "...the Immediate Past-President..." and before the words "...the Secretary..." by inserting the words "the First, Second and Third Vice Presidents."

Amend Article VIII (Executive Committee), Section 3, in the last sentence, following the words "A quorum of the Executive Committee shall be..." by striking the word "three" and inserting the word "four..."

Dr. Azar, on behalf of of the Bylaws Committee, recommended adoption of the following bylaw amendment, Item 6 of the report, which, after debate, was adopted by the required 2/3 vote (58 ayes, 22 noes):

Item 6. Proposed Bylaw Amendment to Incorporate into Committee Function Activities Involving Quality Assurance, Risk Management, Model Hospital Medical Staff Bylaws, and Consultation with Outside Organizations - ADOPTED

Amend Article XI, Section 12 (Committee on Hospital Medical Staffs) by substituting for it the following:

Section 12. A **Committee on Hospital Medical Staffs** shall be appointed by the President from a list of Med Chi members provided by each hospital medical staff who are either designated as delegates to the American Medical Association Hospital Medical Staff Section; and/or who have involvement and expertise in hospital quality assurance activities. Its chairman shall be appointed by the President. The committee shall consult with the Department of Health and Mental Hygiene, medical staffs, professional liability insurers and the Maryland Hospital Association regarding quality assurance programs, risk management programs, complaint investigations, and any other matters concerning the establishment of medical standards in hospitals. The committee shall also monitor legal issues including hospital medical staff bylaws on the local, state and federal levels. The committee shall work with and coordinate activities with the Hospital Medical Staff Section of the American Medical Association.

Dr. Azar, on behalf of the Bylaws Committee, recommended adoption of the following bylaw amendment, Item 9 of the report, which, after debate, was recommitted to the Bylaws Committee for further consideration and report to the House of Delegates at the 1989 Semiannual Meeting:

Item 9. Proposed Bylaw Amendment to Restructure the Committee on Public Health - RECOMMITTED

Amend Article XI, Section 28 (Committee on Public Health), by substituting for it the following new Section 28:

Section 28. The **Committee on Public Health** shall consist of a chairman (or two co-chairmen), and the chairman of each subcommittee, all of whom shall be appointed by the president. It shall consider and advise upon all aspects of public health and preventive medicine. It shall maintain continuous liaison with the Department of Health and Mental Hygiene, federal agencies and with the private sector. It shall act in an educational capacity and as a consultant to these groups in evaluating quality of care, experimental programs involving alternative methods of health care delivery, and in any other area wherein improvement of public health and preventive medicine services may be undertaken. The committee shall monitor developments involving allied health professionals at local, state, and national levels and may make recommendations to the Faculty's governing bodies. The Committee on Public Health shall direct and coordinate the activities of its subcommittee in areas of immunology and infectious diseases; AIDS; maternal health and welfare; child and adolescent health adolescent health and welfare; sports medicine; long-term care and geriatrics; alcoholism and chemical dependency; occupational health; and mental health. Through its subcommittees, the Public Health Committee should have the following as its operating goals: articles for possible publication in the *Maryland Medical Journal*, development of seminars/conferences for physician groups, as well as the public at large, and the development of a program to be presented during Med-Chi's annual meeting.

Amend Article XI, Section 1 (Committee on AIDS), by striking it in its entirety and inserting the following new section as subsection (a) of the Committee on Public Health:

(a) **Subcommittee on AIDS** - A subcommittee of at least five members shall work toward educating the public and the membership with respect to all aspects of AIDS. It shall review current medical treatment and policies of industry, housing, hospitals, and schools with respect to AIDS patients, present scientific information relative to AIDS, and shall offer its services to component medical societies, hospital medical staffs, local and state health departments and school systems. The subcommittee may cooperate with government and private agencies working in the field of AIDS and invite the attendance of physicians and nonphysician members of such agencies to work with the subcommittee on a nonvoting basis. It shall also have cross-representation with the Subcommittee on Immunology and Infectious Diseases.

Amend Article XI, Section 2 (Committee on Alcoholism and Chemical Dependency), by striking it in its entirety and inserting the following new section as subsection (b) of the Committee on Public Health:

(b) **Subcommittee on Alcoholism and Chemical Dependency** - A subcommittee of at least five members shall work toward educating the public and the membership with respect to alcoholism and chemical dependency as illnesses; present scientific information to physicians relative to alcoholism and chemical dependency; and offer its services to hospital medical staffs in an attempt to have such members understand alcoholism and chemical dependencies. The subcommittee may cooperate with government and private agencies working in the field of alcoholism and chemical dependency and invite the attendance of physicians and nonphysician members of such agencies to work with the subcommittee on a nonvoting basis.

Amend Article XI, Section 28 (Committee on Public Health), by inserting the following new subsection (c):

(c) **Subcommittee on Child and Adolescent Health and Welfare** - A subcommittee of at least five members shall report to the Committee on Public Health on all matters involving infant, child and adolescent health.

Amend Article XI, Section 28 (Committee on Public Health), by inserting the following new subsection (d):

(d) **Subcommittee on Immunology and Infecitious Diseases** - A subcommittee of at least five members shall report to the committee on public health on all matters involving immunology and infectious diseases. It shall also have cross-representation with the Subcommittee on AIDS.



Auxiliary Past President, Bobbie Niklewski, admires a treasure at the AMA-ERF Auction in the Cameo Ballroom at Turf Valley.

Amend Article XI, Section 15 (Liaison Committee with the Department of Health and Mental Hygiene), by striking it in its entirety and inserting the following new section as subsection (e) of the Committee on Public Health:

(e) **Subcommittee on Liason with Medical Assistance Program** - A liaison subcommittee with the Medical Assistance Program consisting of five members shall maintain continuous liaison with the Medical Assistance Program, the payments made under such programs to providers of health care services, and all other facets of operation of this program. It shall act as a consultant to the Medical Assistance Program in evaluating the quality of care, experimental programs involving alternative methods of delivery of care and any other area wherein improvement of health services provided to medical assistance patients may be undertaken.

Amend Article XI, Section 16 (Committee on Long-Term Care and Geriatrics), by striking it in its entirety and inserting the following new section as subsection (f) of the Committee on Public Health:

(f) **Subcommittee on Long-Term Care and Geriatrics** - A subcommittee of at least five members shall have as its duties and responsibilities the evaluation of health care rendered in long-term care and geriatric facilities, geriatric rehabilitation facilities, and home health care services; development of fundamental principles involved in seeing that quality health services are provided in such facilities, and by outpatient and home health care service providers; serve in an advisory capacity to ensure that the goals established by the subcommittee are being met in all such facilities; work with those governmental and other agencies which are involved in the provision and delivery of long-term care and geriatrics services; develop and seek funding for any research projects that might improve the quality of such long-term care and geriatrics services; develop interaction of the various professional and nonprofessional groups concerned with long-term care and geriatrics, preparing and presenting educational programs to acquaint the profession, the public and others with problems relating to services in such institutions and to integrate these services into the total health care system.

Amend Article XI, Section 28 (Committee on Public Health) by inserting the following new subsection (g):

(g) **Subcommittee on Maternal Health and Welfare** - A subcommittee of at least five members shall report to the Committee on Public Health on all issues involving maternal health including maternal morbidity and mortality, evolution of all perinatal deaths, and the review of policies and procedures that have impact upon maternal morbidity and mortality.

Amend Article XI, Section 20 (Committee on Mental Health), by striking it in its entirety and inserting the following new section as subsection (h) of the Committee on Public Health:

(h) **Subcommittee on Mental Health** - A subcommittee of at least five members shall investigate, consider and advise upon all areas of emotional and mental health and maintain closeliaison with the areas of mental retardation and substance abuse.

Amend Article XI, Section 22 (Occupational Health Committee), by striking it in its entirety and inserting the following new section as subsection (i) of the Committee on Public Health:

(i) **Subcommittee on Occupational Health** - A subcommittee of at least five members shall study and report as it deems advisable upon all phases of occupational health including the working environment. It shall consider such subjects as occupational health problems in industry; and the quality and health environment in industry as it affects the working person. It shall also monitor the activities of the Workers Compensation Commission to include reimbursement policies and procedures, disability determination criteria and all other areas. It shall establish liaison with the health care practitioner to discuss areas of mutual concern; and it shall advise all physicians with respect to employee absenteeism, the proper use of work absence certificates, return to work authorizations, appropriate use of health insurance benefits, and any other related areas.

Amend Article XI, Section 28 (Committee on Public Health), by inserting the following new subsection (j):

(j) **Subcommittee on Sports Medicine** - A subcommittee of at least five members shall report to the Committee on Public Health on all matters involving sports medicine at the state and national level.

AMA-ERF Checks

Checks in the amount of $18,215 in unrestricted funds and $4,324 in restricted funds were presented to Dr. David Blake, Associate Dean for Administration and Planning of The Johns Hopkins University, School of Medicine; $2,007 in unrestricted funds and $102 in restricted funds were presented to Col. Richard McDonald MD, Assistant Dean for Student Affairs of the Uniformed Services University of the Health Sciences; and $30,146 in unrestricted funds and $6,931 in restricted funds were presented to Dr. James Hudson, Associate Dean for Academic Administration of the University of Maryland, School of Medicine.

Mrs. Elizabeth Linhardt, Chairman of the AMA-ERF in Maryland, and Mrs. Eva Edmonds, President of the Med Chi Auxiliary, participated in the presentation.

A.H. Robins Award

The President presented the A. H. Robins Award for Community Service to Dr. Hiroshi Nakazawa for his outstanding contributions to the community, the state, the country and the world, for his commitment to the delivery of quality health care, and for his dedication to the profession of medicine.

Certificates of Appreciation

The President presented Certificates of Appreciation to the following physicians for their outstanding service and dedication as chairmen of their respective committees:

Dr. Victor Hrehorovich, Chairman
Committee on Hospital Medical Staffs
Dr. Louis C. Breschi, Chairman
Committee on Professional Ethics
Dr. Emidio A. Bianco, Chairman
Peer Review Committee

Photo Contest

The President announced the winners of the Photo Contest:

Color - lst and 2nd Place: Dr. Jerrold Post
Black-and-White - lst Place: Dr. David Paul
2nd Place: Dr. Irvin Washman

Awards to Faculty - Thoracic Society

On behalf of Dr. James P.G. Flynn, Ms. Thelma Rector of the Maryland Chapter of the Maryland Thoracic Society, presented an award to the Faculty in recognition of Med Chi's continued support toward improving health in the fight against lung disease through education and smoking prevention.

Maryland National Guard

A Certificate of Appreciation was presented to Med Chi by Brig. Gen. Tom Baker, on behalf of the Maryland Army National Guard, in recognition of Med Chi's support of the Maryland Guard in its efforts to recruit medical professionals.



Dr. Hiroshi Nakazawa is presented with the A. H. Robins Award by President Dobridge.

Nominating Committee Report

Dr. Leon Kassel, Immediate Past-President and Chairman of the Nominating Committee, on behalf of the Nominating Committee, presented the following slate of officers to the House of Delegates:

President-elect (1989-90)
Reynaldo L. Lee-Llacer, Prince George's County (President, 1990-91)

First Vice-President (1990)
Marvin Schneider, Wheaton, Montgomery County

Second Vice-President (1990)
Bahram Erfan, Riverdale, Prince George's County

Third Vice-President (1990)
Alex Azar, Salisbury, Wicomico County

Secretary (1990)
Harold B. Bob, Baltimore, Baltimore County

Treasurer (1990)
Jose M. Yosuico, Baltimore, Baltimore City

Committee on Scientific Activity (1990-1996)
John H. Mulholland, Baltimore, Baltimore City

Finney Fund Committee (1990-1995)
Theodore E. Woodward, Baltimore, Baltimore City

Delegates to the AMA
Albert M. Antlitz, Baltimore, Baltimore City (January 1, 1990-December 31, 1992)
Roland T. Smoot, Baltimore, Baltimore City (January 1, 1990-December 31, 1992)
Joseph Snyder, Silver Spring, Montgomery County (January 1, 1989-December 31, 1991)

Alternate Delegates to the AMA
Barry E. Epstein, Baltimore, Baltimore City (Resident) (January 1, 1990-December 31, 1992)
Daniel P. Paoli, Baltimore, Baltimore City (Student) (January 1, 1990-December 31, 1992)
Raymond M. Atkins, Baltimore, Baltimore City (January 1, 1989-December 31, 1991)
J. David Nagel, Lutherville, Baltimore County (1989 Annual Meeting-December 31, 1990)

Board of Physician Quality Assurance
(4 year term, 6/30/89-6/30/93) - (Faculty Bylaws require that a minimum of twice the number of nominees shall be submitted as there are seats to be filled.)

R. Marshall Ackerman (ORS), Rockville, Montgomery County
Ira N. Brecher (GS), Silver Spring, Montgomery County
Lawrence A. Jones (U), Hagerstown, Washington County
David P. Largey (GS), Salisbury, Wicomico County
Lorenzo Marcolin (ORS), Rockville, Montgomery County

Dr. Kassel announced that Dr. Mulholland had withdrawn his nomination to the Committee on Scientific Activity, thereby leaving a vacancy to be filled.

The floor was opened to further nominations for these offices.

Dr. Gershon Efron, Baltimore City, was nominated from the floor for the position on the Committee on Scientific Activity, following which the nominations were declared closed by general consent.

The President announced that the election for the various positions would take place as the first item of business on Friday, April 14, 1989 at 2 p.m.

Resolution

Dr. Robert Ruderman, on behalf of the Prince George's County Medical Society, requested to introduce a resolution proposing the formation of a Maryland Healthcare Delivery Alliance which, by a 2/3 vote of the House, was deferred for discussion at the meeting of the House on Friday, April 14.

The meeting was adjourned at 12:45 p.m.

HAROLD B. BOB MD, Secretary

Medicolegal Hotline for Any Emergency

August	Lawrence Pinkner MD	301-484-8080
	Augustus F. Brown, IV, Esq	301-838-5500
September	James E. Bowes MD	301-543-6930
	Ellen A. Callegary, Esq	301-333-6797

Minutes

Second Meeting, 191st Annual Session, House of Delegates (328th Meeting)
Friday, April 14, 1989

The 328th meeting, second of the 191st Annual Session of the House of Delegates of the Medical and Chirurgical Faculty of Maryland was called to order at 2:05 p.m., the President, Dr. Michael R. Dobridge, and the Secretary, Dr. Harold B. Bob, being present.

The following delegates (or alternates) were registered as being in attendance; (*) indicates an alternate delegate; (C) denotes Council Member:

Anne Arundel County
Thomas C. Cullis

Baltimore City
Aristides C. Alevizatos
*Ian R. Anderson**
Donald M. Barrick
Gaylord L. Clark, Jr.
*Augusto R. De Leon**
Albert Folgueras
Susan R. Guarnieri (C)
Rafael C. Haciski
Thomas E. Hunt
Murray A. Kalish
*J. Leonard Lichtenfeld**
Raymundo S. Magno
Donald W. Mintzer
Hiroshi Nakazawa
Samuel I. O'Mansky
Stephen K. Padussis
Gary L. Rosenberg (C)
Bernard R. Shochet
J. Andrew Sumner
Richard M. Susel
Alan J. Sweatman

Baltimore County
Carla S. Alexander
Ruben F. Ballesteros
Albert L. Blumberg
Herman Brecher
Louis C. Breschi (C)
A. Hamid Ghiladi
John C. Gordon
*George H. Greenstein**
*Deusdedit Jolbitado**
John M. Krager
Mayer C. Liebman
N. Edward Nachlas
Margaret L. Sherrard
H. Russell Wright, Jr.
*Mehdi L. Yeganeh**

Calvert County
*Joseph S. Fastow**(C)

Carroll County
*Alva S. Baker**(C)

Dorchester County
Lewis Burdette
*Paul A. Stagg**(C)

Frederick County
George I. Smith

Garrett County
*Herbert H. Leighton**(C)

Harford County
Ben E. Oteyza

Kent County
Harry P. Ross

Montgomery County
Lawrence H. Fink (C)
Charles H. Ligon
Herman C. Maganzini
Francis C. Mayle, Jr.
Edward S. Mehlman
Margaret T. Snow

Prince George's County
Willie C. Blair
John Chesley
Albert Fisher
John E. Jeffrey
Abdul Nayeem
*David N. Robb**
Robert Ruderman
*Maximo Singer**
Frederick Wilhelm

Queen Anne's County
John R. Smith, Jr. (C)

Washington County
Edward W. Ditto
Albert J. Strauss, Jr.

Wicomico County
*Alex Azar**
James A. Cockey
Farouk A. Sultani

Student Component
William E. Venanzi

Past Presidents
Arthur T. Keefe, Jr.

Council
Thomas E. Allen
Albert Antlitz
James E. Bell
Ira N. Brecher
Harold B. Bob
Aurelio Delapaz
Benjamin Del Carmen
Donald H. Dembo
Christopher Harvey
John H. Hebb
Lawrence A. Jones
Leon E. Kassel
Henry P. Laughlin
Reynaldo L. Lee-Llacer
Donald T. Lewers
George S. Malouf, Sr.
Leslie R. Miles, Jr.
J. David Nagel
David S. O'Brien
Hilary T. O'Herlihy
Gary L. Rosenberg
Aubrey C. Smoot
Roland T. Smoot
Joseph Snyder
Jose M. Yosuico

Also present were members of the Faculty staff.

J.D. Drinkard
1931-1989

The President called for a moment of silence in respect for Dr. J. D. Drinkard, Past President of the Faculty, who died on Thursday, April 13, 1989 in Lynchburg, Virginia.

Guests

The President introduced the following guests who were in attendance:

Dr. J. Thomas Hulvey, President Medical Society of Virginia

Judge Edgar P. Silver, former Judge of Supreme Bench of Baltimore

Election of Officers

There being only one candidate for each office to be filled, by unanimous consent, the ballot was dispensed with and the following were elected by voice vote:

President-elect (1989-1990)
Reynaldo L. Lee-Llacer, Clinton, Prince George's County
(President 1990-1991)

First Vice-President (1990)
Marvin Schneider, Wheaton, Montgomery County

Second Vice-President (1990)
Bahram Erfan, Riverdale, Prince George's County

Third Vice-President (1990)
Alex Azar, Salisbury, Wicomico County

Secretary (1990)
Harold B. Bob, Baltimore, Baltimore County

Treasurer (1990)
Jose M. Yosuico, Baltimore, Baltimore City

Committee on Scientific Activity (1990-1996)
Gershon Efron, Baltimore, Baltimore City

Finney Fund Committee (1990-1995)
Theodore E. Woodward, Baltimore, Baltimore City

Delegates to the AMA
Albert M. Antlitz, Baltimore, Baltimore City
(January 1, 1990-December 31, 1992)
Roland T. Smoot, Baltimore, Baltimore City
(January 1, 1990-December 31, 1992)
Joseph Snyder, Silver Spring, Montgomery County
(January 1, 1989-December 31, 1991)

Alternate Delegates to the AMA
Barry E. Epstein, Baltimore, Baltimore City
(Resident) (January 1, 1990-December 31, 1992)
Daniel P. Paoli, Baltimore, Baltimore City
(Student) (January 1, 1990-December 31, 1992)
Raymond M. Atkins, Baltimore, Baltimore City
(January 1, 1989-December 31, 1991)
J. David Nagel, Lutherville, Baltimore County
(1989 Annual Meeting-December 31, 1990)

Board of Physician Quality Assurance
(Nominees to be submitted.)

R. Marshall Ackerman (ORS), Rockville, Montgomery County
Ira N. Brecher (GS), Silver Spring, Montgomery County
Lawrence A. Jones (U), Hagerstown, Washington County
David P. Largey (GS), Salisbury, Wicomico County
Lorenzo Marcolin (ORS), Rockville, Montgomery County



Maryland's Mary Strauss, 1988-89 AMA President, delivers her farewell address to Med Chi's House of Delegates.

AMA Alternate Delegate Elected

By unanimous consent, nominations were reopened to fill the vacancy created by the election of Dr. *Joseph Snyder* (former Alternate Delegate) to the position of Delegate to the AMA. Dr. Reynaldo Lee-Llacer was nominated from the floor and elected unanimously to the position of AMA Alternate Delegate for the term commencing with the 1989 Annual Meeting through December 31, 1991.

Awards Presented

The President presented awards to Senator Paula Hollinger and Delegate Donna Felling for addressing the nursing crisis in Maryland in the legislature.

AMA Auxiliary Report

Mrs. Mary Strauss, President of the AMA Auxiliary, presented a report on the activities of the auxiliary during the past year.

Med Chi Auxiliary Report

Mrs. Eva Edmonds, Auxiliary President, made a report to the House of Delegates which will be published in the annual reports in the August 1989 issue of the *Maryland Medical Journal.*

MMPAC Report

Dr. Harold B. Bob, Chairman of the Maryland Medical Political Action Committee, made a report to the House of Delegates. This report will be included in the annual reports published in the August 1989 issue of the *Maryland Medical Journal.*

Reference Committee Report

Dr. Aubrey C. Smoot, Chairman of the Reference Committee, on behalf of the Reference Committee, recommended adoption of the following resolution, which was adopted unanimously:

Resolution 1A/89 - Student and Resident Participation - ADOPTED

Whereas, The Medical and Chirurgical Faculty of Maryland was among the first state medical societies to establish Student and Resident Component Medical Societies;
Whereas, The Medical and Chirurgical Faculty of Maryland has continued to encourage its student and resident members to participate in its activities including the Council and House of Delegates; and
Whereas, Student and Resident Component Societies will continue to provide new membership vital to a dynamic, growing medical society; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of

Maryland continue to involve its student and resident members in appropriate levels of Faculty activities.

Dr. Smoot, on behalf of the Reference Committee, recommended adoption of the following resolution, which was adopted unanimously:

Resolution 2A/89 - Natural Sciences Ambassador Project - ADOPTED

Whereas, The technology and sophistication of modern medicine has evolved through advancements in the various disciplines of the natural sciences;
Whereas, The continued stature of American medicine and technology relies upon the achievements of scientists both present and future;
Whereas, In a recent evaluation of science aptitude, American 17 years old placed near the bottom of a 17 country comparison;
Whereas, 50 percent of Japanese scientists and engineers are under the age of 35, while only 28percent of their American counterparts are of such age;
Whereas, The classroom can be a vehicle bywhich to captivate a student's attentions and imagination; and
Whereas, The American Medical Association is developing a project introducing scientist "Ambassadors" into classrooms for the purpose of student enlightenment, with the intention of stimulating interest toward concerns in the Natural Sciences; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland establish a Natural Sciences Ambassador Project; and be it further
RESOLVED, That project coordination be accomplished through the voluntary involvement of Component Medical Societies with their respective Boards of Education.

Dr. Smoot, on behalf of the Reference Committee, recommended adoption of the following resolution, which was adopted unanimously:

Resolution 3A/89 - Ophthalmic Surgical Care - ADOPTED

Whereas, A surgeon's obligations to a patient do not end with the conclusion of an operation;
Whereas, This physician-patient relationship, unless appropriately terminated by one or both of the parties, continues until ended by the cessation of the medical necessity which gave rise to the relationship;
Whereas, The management of post-ophthalmic surgical care constitutes the practice of medicine and cannot be managed by other health care practitioners;
Whereas, Post-ophthalmic surgical care is inseparable from the entire surgical process as it involves monitoring the recovery process, detecting and diagnosing conditions arising during the recovery process, and taking steps to treat postsurgical problems;
Whereas, Ophthalmologists, because of their unique competence to diagnose and treat post-operative ocular pathologic conditions, are the only health care professionals who are fully educated and trained to manage and provide postoperative medical eye care;
Whereas, The American Academy of Ophthalmology feels that the provision of postoperative care by nonphysicians represents patient abandonment and is certainly not in the best interest of the patient; and
Whereas, The Maryland Board of Medical Examiners in July 1986 has affirmed that the rendering of postoperative care isthe practice of medicine and cannot be legally delegated; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland asserts that, in keeping with the sound professional practice of medicine, the provision of postoperative medical eye care is the responsibility of the ophthalmologist and can be neither legally nor ethically delegated to a nonphysician.

Dr. Smoot, on behalf of the Reference Committee, recommended adoption of the following resolution, which was adopted by unanimous vote:

Resolution 4A/89 - Women Physicians in Organized Medicine - ADOPTED

Whereas, The professional expertise, skills and leadership of women are important to the future of organized medicine;
Whereas, Women are entering the medical field in increasing numbers; and
Whereas, Women physicians have made outstanding contributions to the fields of research and development and clinical medicine; therefore, be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland in cooperation with its component societies, actively recruit women members; and be it further,
RESOLVED, That the Medical and Chirurgical Faculty of Maryland encourage women physicians to actively participate in organized medicine through increased committee and other leadership involvement.

Dr. Robert Ruderman, on behalf of Prince George's County Medical Society, moved adoption of the following resolution. After debate, a motion was adopted to refer the resolution to the appropriate committee of the Faculty for study and report back to the House of Delegates at its 1989 Semiannual Meeting:

Late Resolution 5A/89 - REFERRED

Whereas, There are major forces in the delivery of health care in Maryland which are denying the patient the right to free choice;
Whereas, The Federal Government has expanded its role in health care delivery by expanding the interpretations of the intent of the laws without benefit of consultation with those delivering the care; and
Whereas, A steady decline in the quality of health care adversely affecting eligible Medicare enrollees is anticipated,



Outgoing President Michael R. Dobridge MD leads Med Chi's new President, Raymond M. Atkins in the oath of office.

while the costs are being caused to rise due to increasing administrative expenditures; therefore, be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland cause to be established a Maryland Health Care Delivery Alliance consisting of the Faculty, the Maryland Hospital Association, the Maryland Nursing Association, and other statewide professional associations, in order to act as a unified voice which would have greater effect than the individual groups themselves.

Oath of Office - Exchange of Gavel

Dr. Dobridge, President, briefly addressed the House, administered the Oath of Office to Dr. Raymond M. Atkins, the incoming President, presented Dr. Atkins with the President's Medallion, and the exchange of the gavel took place. Dr. Atkins then presented the Past-President's Medallion to Dr. Dobridge and proceeded to address the House.

By unanimous consent, the President declared the meeting adjourned sine die at 3:30 p.m.

HAROLD B. BOB MD, Secretary



Dr. Atkins is congratulated by his wife, Julie.



Dr. Raymond M. Atkins receives the President's Medal.

Intercessory Prayer

Two researchers are studying the effects of intercessory prayer and are interested in hearing from anyone who has conducted similar work. Anyone who has carried out such a study but has never published the results is requested to contact either of the below listed professors. If you have not personally been involved in such a study but know people who have, please share their names and addresses with:

Prof. Michael Zimmerman (216-775-8517 or 8315)
Oberlin College, Oberlin, OH 44074

Asst. Prof. Jeffrey A. Witmer (216-775-8381 or 8380)

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Medical and Chirurgical Faculty of Maryland

Physician Rehabilitation Committee

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Ad hoc Women in Medicine

Mr. President and Members of the House of Delegates:

The Ad Hoc Committee on Women In Medicine was formed in January 1989 to focus on issues facing women physicians relating to both their professional and personal goals and to develop programs to improve the opportunity for women in medicine to attain the goals.

At present, the primary goal of this committee is to increase women's membership in Med Chi and encourage women physicians to become actively involved in organized medicine at all levels (county, state, and national). The Committee formulated a resolution, passed by the House of Delegates in April 1989, that Med Chi "actively recruit women members" and the Faculty "encourage women to actively participate in organized medicine through increased committee and other leadership involvement."

To carry out this resolution, the Committee is sending letters and Med Chi membership brochures to nonmember women physicians in Maryland encouraging them to participate in organized medicine. In September 1989, the Committee will celebrate "Women in Medicine Month." During this month, women physicians in Maryland will be invited to participate in a meeting to discuss problems that may be unique to women physicians and to determine how organized medicine can help solve them.

To increase the participation of Med Chi's women members, each member of the Women in Medicine Committee was asked to volunteer to serve on another Med Chi Committee that lacks women representatives. In 1988, nine Med Chi committees lacked women representatives; in 1989, the Women in Medicine Committee hopes to reduce this number.

Another major goal of the Women in Medicine Committee is to increase the availability of child care facilities for working women. The Committee is formulating solutions for a new type of child care that will be convenient, safe, flexible, readily available, and close to the workplace so parents may spend more time with their children to the benefit of the parents, their children, and their profession.

Other goals of the Committee may include support and social groups for women physicians, seminars to help women function with job/family stress, and a roundtable discussion of women physicians and medical students to discuss various women's issues perceived to be unique to working women.

The members of the Women in Medicine Committee thank Med Chi for the opportunity of serving on this committee. We welcome any comments or suggestions for future activities from all physicians. In this exciting and changing medical atmosphere, we physicians must work together, cooperating for the excellence of our profession now and in the future.

Margaret Snow MD, Chairperson

Joan Barkin MD
Vivian Charneco MD
Jaleh K. Daee MD
Hilda Houlihan MD
Margaret Merrick MD
Carol Mufarrij
Deborah Packer
Barbara A. Parey MD
Martha Schipper MD
Beverly J. Stump MD

AIDS

Mr. President and Members of the House of Delegates:

The Committee on AIDS met six times between September 1988 and May 1989.

Over the last 12 months, a number of AIDS issues have surfaced. Educating and teaching children about this disease has been a major goal. The Committee was instrumental in implementation of such education into the schools (public, private, and parochial) by the Department of Health and Mental Hygiene, while the committee concentrated on educating physicians in Maryland.

Meetings have been held with the chairman and members of the Faculty's Ethics Committee to assist in providing ethical opinions for physicians in the treatment of AIDS patients. Our position is identical to that of the AMA.



Auxiliary Past Presidents after the Gavel Club luncheon meeting at Turf Valley.

A great deal of legislation related to AIDS issues was introduced during the 1989 General Assembly. Opinions of the Committee were transmitted to the Faculty's Legislative Committee and the Governor's Advisory Council on AIDS.

The Committee cosponsored a scientific session with the Center for Health Education Inc. at the 1989 Annual Meeting of Med Chi, "AIDS, How Will It Affect Your Practice?" and the response was overwhelming. The Committee also sponsored an educational booth on AIDS and distributed pamphlets provided by the Department of Health and Mental Hygiene. Committee members volunteered their time to staff the booth and to respond to questions raised by physicians.

Membership of this Committee consists of physician-members of Med-Chi and representatives from local and state health departments, the Health Education Resource Organization (HERO), and the Center for Health Education. The Committee looks forward to the coming year and will strive to provide appropriate education both to the physicians and the public. The Chairman has appreciated the dedication of the committee members and the Faculty staff.

Gabriel B. Jaffe MD, Chairperson
Magaret T. Snow MD, Vice-Chairperson

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Carla S. Alexander MD
Robert J. Ancona MD
Susanne S. Ashton MD
Randale E. Bass MD
Eugene S. Bereston MD
Richard S. Bernier MD
Jeffrey A. Briggs MD
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M. Keith Rawlings MD
Carmine Valente PhD
Gillian Van Blerk MD
Jack M. Zimmerman MD

Alcoholism and Chemical Dependency

Mr. President and Members of the House of Delegates:

The Committee on Alcoholism and Chemical Dependency continued its efforts toward raising awareness concerning the dangers of alcohol and drug abuse and smoking.

The Committee began the year by meeting with representatives from Mothers Against Drunk Driving and the Alcoholism and Drug Abuse Administration of the Department of Health and Mental Hygiene of the State of Maryland. After learning more about these organizations, members developed a proposal concerning an individual's responsibility for behavior while under the influence of alcohol. The proposal was approved by the Committee at its last meeting and is being considered for presentation to Med Chi's Council.

The Committee presented a resolution to the Council limiting the sale of tobacco products in Maryland by raising the minimum age required for the purchase of tobacco products and restricting the means by which tobacco products may be dispensed. This resolution was approved by the Council. During the past year other resolutions developed by the Committee on Alcoholism and Chemical Dependency and being considered for presentation to the Council include banning the US exportation of tobacco products, banning the sale and use of tobacco products in Maryland hospitals and the voluntary banning of the use of tobacco products in physicians' offices. All resolutions were aimed at reducing the use of tobacco products.

The Committee also co-sponsored a presentation, with the Maryland Psychiatric Society and American Academy of Family Physicians, entitled "The Pen Is Mightier than the Sword - Prescription Drug Abuse" at Med-Chi's Annual Meeting. The presentation was well received and consideration is being given to offering this presentation to component societies of the Faculty.

The Committee continues to work diligently to address a wide range of concerns about alcohol and chemical abuse. I thank the Faculty, the Committee members, and our staff for their assistance and support during the past year.

N. Joseph Gagliardi MD, Chairperson

Frederick P. Alpern MD
Richard H. Anderson MD
L. Bradley Baker MD
Richard A. Baum MD
Torrey C. Brown MD
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Beatrice L. Selvin MD
John R. Steinberg MD
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Hussein Tavassolie MD
Maxwell N. Weisman MD

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Arthur MacNeill Horton, Jr., EdD
Isadore Kaplan MD
Ludwig L. Lankford
Marie McCarthy RN
Phil McMkenna
Walter P. Pidgeon, Jr., CAE
Philip P. Nolan DDS

AMA-ERF

Mr. President and Members of the House of Delegates:

It is my privilege as State Chairman AMA-ERF to submit the final report of Faculty Members' contributions to AMA-ERF for the fiscal year June 1, 1988 through May 31, 1989. While we did not reach our goal of $67,000 by roughly $7,000, we are indeed grateful for the loyal, generous support of **all** Faculty members whose contributions, coupled with fund-raising efforts of Auxilians, realized a final state total of $59,801.

With sincere gratitude we recognize the support of the following county medical societies who participated in our State Board "Holiday Sharing Card" project:

Allegany County Medical Society
Anne Arundel County Medical Society
Baltimore City Medical Society
Howard County Medical Society
Montgomery County Medical Society

Realizing what we have done in AMA-ERF could be of major significance, what we must do is even more important. In today's world the continuing rapid advance in technology and the ever-increasing discovery of new diseases emphasize the extreme need to increase support to our medical schools and the new generation of tomorrow's physicians. *This is our medical family obligation.*

Faculty Contributions
June 1, 1988 - May 31, 1989

Allegany County	$ 590
Anne Arundel County	2,105
Baltimore City	4,625
Baltimore County	3,340
Calvert County	180
Caroline County	--
Carroll County	360
Cecil County	185
Charles County	260
Dorchester County	100
Frederick County	380
Garrett County	40
Harford County	820
Howard County	985
Kent County	100
Montgomery County	6,875
Prince George's County	2,743
Queen Anne's County	20
St. Mary's County	60
Somerset County	20
Talbot County	700
Washington County	1,080
Wicomico County	940
Worcester county	20
Total	$26,528

Maryland Physicians' Direct Contributions
June 1, 1988 - April 30, 1989
$8,359

Elizabeth A. Linhardt, State Chairperson

Auxiliary

Mr. President and Members of the House of Delegates:

Visibility of our State Auxiliary and recognition for our work has dominated the 1988-89 Fortieth Anniversary Year. This is a federated visibility seen on the national, state, and county level.

On the national level, we have been proud and honored that Mary Strauss (Mrs. Albert J., Jr.) has been the first AMA Auxiliary President from Maryland.

On the state level, we have had an impact on legislation. In November the Auxiliary, Med Chi, Maryland Medical Political Action Committee, and specialty societies jointly participated in "Docs for Don." This was a breakfast meeting with Governor William Schaefer, who is a friend of medicine.

January 31 was Auxiliary Day in Annapolis. Vicki Cameron, State President-Elect; Josie Figueroa, Nominated State President-Elect; Dan Divito, Legislation Chairman; Mary Skipton, Past State President and Legislative Chair; and I stood on the dais in the Maryland Senate chambers and proudly received from Mike Miller, President of the Senate, a Resolution to our Auxiliary "In Recognition of Contributions in Health, Education and the Promotion of Quality Health Care."

The Sixth Annual Multi-State Meeting with other state Auxiliary leaders (Virginia, West Virginia, DC, Maryland) was held in March in Washington. After a briefing from AMA, we traveled to Capitol Hill to contact our individual legislators.

On the county level, our projects and accomplishments are varied, but they have an impact on their respective communities. A sampling of projects includes: AIDS Education Seminar, Senior Citizen programs and overseeing a senior center, organizing a holiday sharing for the poor, helping to raise funds for shelters for the homeless, giving away car seats, adopting needy families during special holidays, bringing valentine cheer to residents of a nursing home, volun-



Participants after the prayer breakfast from left:
Dr. Wells, Dr. Miles, Anne Neale PhD, Dr. Atkins

teering for a prison health fair, presenting pediatric units of hospitals with Organ Annie dolls, and presenting an ongoing joint program with a county medical society using Organ Annie in the elementary classroom. We have been visible throughout our state.

These accomplishments and commitments of our component Auxiliaries are varied, but they have had a tremendous impact on our communities and thus our state as a whole.

The State Auxiliary is proud of its 40 years of rich and varied history.

Eva M. Edmonds, President 1988-89

Bylaws

Mr. President and Members of the House of Delegates:

The Bylaws Committee recommends the following bylaw amendments to the House of Delegates for its consideration:

1. Proposed Bylaw Amendment to Provide Voting Privileges for Emeritus Members in the Council

- Rationale: In accordance with Council action of September 24, 1988, Emeritus Members elected to Council by their respective component societies shall have voting privileges in the Council.
- Amend Article II, Section 5 (Emeritus Members) following the words "They shall have the rights accruing to associate members," by inserting the words, "and they shall have the right to serve on the Council with voting privileges."

OLD

[ ] indicates deletion

Section 5. *EMERITUS MEMBERS* shall consist of those members who, upon the request of their component societies and recommendation by the Council, shall be so designated by majority vote of the House of Delegates. They shall be (1) members no longer engaged in the practice of medicine, either in private practice, public health, administration, teaching or any activity where their knowledge of medicine earns them an income; or (2) members whose health is such that their ability to carry on active practice has become greatly limited. The Council, of its own motion and without the request of a component society, may recommend to the House of Delegates for active practice has become greatly limited. The Council, of its own motion and without the request of a component society, may recommend to the House of Delegates for Emeritus Membership any affiliate member under the provisions of Article II, Section 3 (2), provided they meet all of the requirements of this section. They shall have the rights accruing to associate members. They shall not be entitled to physician's defense unless the alleged malpractice occurred during their tenure as active members.

NEW

CAPS indicate change

Section 5. *EMERITUS MEMBERS* shall consist of those members who, upon the request of their component societies and recommendation by the Council, shall be so designated by majority vote of the House of Delegates. They shall be (1) members no longer engaged in the practice of medicine, either in private practice, public health, administration, teaching or any activity where their knowledge of medicine earns them an income; or (2) members whose health is such that their ability to carry on active practice has become greatly limited. The Council, of its own motion and without the request of a component society, may recommend to the House of Delegates for Emeritus Membership any affiliate member under the provisions of Article II, Section 3 (2), provided they meet all of the requirements of this section. They shall have the rights accruing to associate members AND THEY SHALL HAVE THE RIGHT TO SERVE ON THE COUNCIL WITH VOTING PRIVILEGES. They shall not be entitled to physician's defense unless the alleged malpractice occurred during their tenure as active members.

The Bylaws Committee recommends adoption of this bylaw amendment.

2. Proposed Bylaw Amendment to Establish a Committee on Specialty Societies

- Rationale: In accordance with recommendation of Ad Hoc Role Relationship Committee adopted by Council on January 28, 1989, to provide representation of specialty societies within the Faculty.
- Amend Article XI (Committees) by inserting the following new Section 35, subsequent sections automatically being redesignated:

Section 35. A *COMMITTEE ON SPECIALTY SOCIETIES* composed of representatives of Maryland specialty societies (as identified by the Council) shall be appointed annually by the Faculty President, who shall also appoint the Chairman. Each specialty society shall be authorized one designee and an alternate, who shall be members of Med Chi. The committee shall review issues concerning inter-disciplinary and multi-disciplinary problem areas of medical practice as they relate to each specialty. The Committee shall present issues to the Council for adoption, thereby lending the full force of organized medicine within the State of Maryland to an issue which may affect only one specialty. The Committee shall select from its membership, seven delegates (and seven alternate delegates) as representatives to the Faculty's House of Delegates, and one member to serve on the Faculty's Council.

The Bylaws Committee recommends adoption of this bylaw amendment.

3. Proposed Bylaw Amendment to Clarify Council Composition

• Rationale: To include component society elected councilors and selected representative of Committee on Specialty Societies as members of Council.

o Amend Article VII (Council), Section 1 by substituting for it the following new Section 1:

OLD

[ ] indicates deletion

[Section 1. The Council shall be composed of the elective officers, the immediate past-president, the Deans of Medical Schools within Maryland and the delegates to the American Medical Association.]

NEW

CAPS indicate change

Section 1. THE COUNCIL SHALL BE COMPOSED OF THE ELECTIVE OFFICERS OF THE FACULTY, THE IMMEDIATE PAST-PRESIDENT, THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION, THE DEANS OF MEDICAL SCHOOLS WITHIN MARYLAND, REPRESENTATIVES OF COMPONENT MEDICAL SOCIETIES, AND A REPRESENTATIVE OF THE COMMITTEE ON SPECIALTY SOCIETIES.

The Bylaws Committee recommends adoption of this bylaw amendment.

4. Proposed Bylaw Amendment to Include Members of the Committee on Specialty Societies in the House of Delegates

• Rationale: As approved by Council on January 28, 1989, the Committee on Specialty Societies shall have representation in the House of Delegates.

o 3Amend Article VI (House of Delegates), Section 5 by inserting the following new subsection (f), all subseqeunt subsections being redesignated:

OLD

[ ] indicates deletion

Section 5. *THE MEMBERS OF THE HOUSE OF DELEGATES* shall be:

(a) The members of the Council, [each of whom shall have one vote.]

(b) One member of the Board of Physician Quality Assurance elected by that body.

(c) One delegate from each chartered component society except for any component society composed exclusively of Student Members or Active Members who are on the resident staff of hospitals or holding a fellowship, and one additional delegate for each 50 Active members and Forty-year members or major fraction thereof.

(d) One alternate from each chartered component society for each delegate. Alternates shall take no part in meetings unless sitting for a delegate.

(e) One delegate from any component society composed exclusively of Student Members or Active Members who are on the resident staff of hospitals or holding a fellowship, and one additional delegate for each 500 members of such Society or major fraction thereof.

(f) All past-presidents with all rights of membership except that of voting.

NEW

CAPS indicate change

Section 5. *THE MEMBERS OF THE HOUSE OF DELEGATES,* EACH OF WHOM SHALL HAVE ONE VOTE (PAST-PRESIDENTS EXCEPTED), SHALL CONSIST OF:

(a) The members of the Council.

(b) One member of the Board of Physician Quality Assurance elected by that body.

(c) One delegate from each chartered component society except any component society composed exclusively of Student Members or Active Members who are on the resident staff of hospitals or holding a fellowship, and one additional delegate for each 50 Active members and Forty-year members or major fraction thereof.

(d) One alternate from each chartered component society for each delegate. Alternates shall take no part in meetings unless sitting for a delegate.

(e) One delegate from any component society composed exclusively of Student Members or Active Members who are on the resident staff of hospitals or holding a fellowship, and one additional delegate for each 500 members of such Society or major fraction thereof.

(f) SEVEN DELEGATES SELECTED BY THE COMMITTEE ON SPECIALTY SOCIETIES, AND ONE ALTERNATE DELEGATE FOR EACH OF THE SEVEN DELEGATES. ALTERNATE DELEGATES SHALL TAKE NO PART IN MEETINGS UNLESS SITTING FOR A DELEGATE. DELEGATES AND ALTERNATE DELEGATES SHALL SERVE FOR A TERM OF ONE YEAR.

(g) All past-presidents with all rights of membership except that of voting.

The Bylaws Committee recommends adoption of this bylaw amendment.

5. Proposed Bylaw Amendment to include Vice Presidents as members of the Executive Committee

• Rationale: To broaden representation in the Executive Committee to include Faculty Vice Presidents as members of the Executive Committee, thereby increasing the number of Executive Committee members from 7 to 10, and providing a more geographical representation and participation in Executive Committee activities. Vice Presidents are selected from different Nominating Committee groups, each of which represents a different area of the state (ref. Art. IV, Sect. 4, Faculty Bylaws). If adopted, a change in the Executive Committee quorum from 3 to 4 is necessary.

MRI UPDATE



Figure 1



Figure 2



Figure 3

CLINICAL INFORMATION: Non-meniscal abnormalities are commonly suspected and evaluated by MRI and unexpected non-meniscal abnormalities are commonly demonstrated in the course of MR evaluation for internal derangements of the knee.

FINDINGS: Figure 1 is a sagittal image through the lateral compartment of a 15-year-old patient's knee. The subarticular portion of the lateral femoral condyle is affected by low signal alteration containing three rounded areas of higher signal intensity. The findings here are diagnostic of osteochondritis dessicans (straight arrows). Notice the normal adjacent anterior and posterior horns of the lateral meniscus (curved arrows).

Figure 2 is a sagittal image through the intercondylar midportion of a 19-year-old patient's knee. The tibial insertion of the anterior cruciate ligament is indicated by the arrow. The remainder of the anterior cruciate ligament is totally disrupted and its expected position is occupied by inhomogeneous material of intermediate signal intensity compatible with hemorrhage. The anterior cruciate has been notoriously difficult to evaluate by MRI, but its reliable evaluation is now possible with careful positioning and rescanning of questionable cases.

Figure 3 is a coronal image of the posterior aspect of the knee of a 33-year-old patient. The arrow indicates a 1.5 cm. ganglion cyst intimately applied to the lateral aspect of the biceps femoris tendon just proximal to the fibular head. The MR study clearly demonstrates the extra-articular and extraosseous nature of this process.

COMMENT: MRI has become clearly established for evaluation of internal derangements of the knee. Meniscal evaluation is known to be highly accurate. The cases shown here are meant to demonstrate the efficacy and accuracy of MR evaluation of extrameniscal structures.

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• Amend Article VIII (Executive Committee), Section 1, following the words "...the Immediate Past-President..." and before the words "...the Secretary..." by inserting the words "the First, Second and Third Vice Presidents."

OLD
[indicates deletion]

Section 1. The Executive Committee shall consist of the President, the President-Elect, the Immediate Past-President, the Secretary, the Treasurer and the Chairman and Vice-Chairman of the Council.

NEW
CAPS indicate change

Section 1. The Executive Committee shall consist of the President, the President-Elect, the Immediate Past-President, THE FIRST, SECOND AND THIRD VICE PRESIDENTS, the Secretary, the Treasurer and the Chairman and Vice-Chairman of the Council.

The Bylaws Committee recommends adoption of this bylaw amendment.

• Amend Article VIII (Executive Committee), Section 3, in the last sentence, following the words "A quorum of the Executive Committee shall be..." by striking the word "three" and inserting the word "four..."

OLD
[indicates deletion]

Section 3. The Executive Committee shall meet at the call of the Chairman of the Council or two of its members. The Chairman of the Council shall be Chairman. *A quorum of the Executive Committee* shall be [three] of its members.

NEW
CAPS indicate change

Section 3. The Executive Committee shall meet at the call of the chairman of the Council or two of its members. The Chairman of the Council shall be Chairman. *A quorum of the Executive Committee* shall be FOUR of its members.

The Bylaws Committee recommends adoption of this bylaw amendment.

6. Proposed Bylaw Amendment to Incorporate into Committee Function Activities Involving Quality Assurance, Risk Management, Model Hospital Medical Staff Bylaws, and Consultation with Outside Organization

• Rationale: In accordance with Council action of November 19, 1988, authorizing Committee on Hospital Medical Staffs to broaden its activities as indicated above. Also, to streamline Committee appointments to better involve Delegates to the American Medical Association Hospital Medical Staff Section and physicians with experience and expertise in hospital based quality assurance.

• Amend Article XI, Section 12 (Committee on Hospital Medical Staffs) by substituting for it the following:

OLD
[ ] indicates deletion

[Section 12. A *COMMITTEE ON HOSPITAL MEDICAL STAFFS*, approximately one-third of the members of which shall be chosen for a term of three years, shall annually be elected by the hospital medical staff of each hospital within the State of Maryland, preferably from among members of the American Medical Association. No such hospital medical staff shall be represented by more than one member. The President of the Faculty may also appoint three members-at-large, and he shall designate the member of the committee who shall serve as chairman. The duties of the committee shall be to provide a direct means of addressing the relationship between members of the Faculty and hospital staffs. The committee shall work with and



Reception line preceding Med Chi's Presidential Banquet. Preparing to greet banquet attendees are (L to R) Dr. Raymond M. Atkins (Incoming President), Ann Wintriss, Dr. Leon E. Kassel (Immediate Past President), Jane Dobridge, Dr. Michael R. Dobridge (President 1988-89). The Dobridge children wait in foreground.

coordinate activities with the Hospital Medical Staff Section of the American Medical Association.]

NEW
CAPS indicate change

SECTION 12. A *COMMITTEE ON HOSPITAL MEDICAL STAFFS* SHALL BE APPOINTED BY THE PRESIDENT FROM A LIST OF MED-CHI MEMBERS PROVIDED BY EACH HOSPITAL MEDICAL STAFF WHO ARE EITHER DESIGNATED AS DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION HOSPITAL MEDICAL STAFF SECTION; AND/OR WHO HAVE INVOLVEMENT AND EXPERTISE IN HOSPITAL QUALITY ASSURANCE ACTIVITIES. ITS CHAIRMAN SHALL BE APPOINTED BY THE PRESIDENT. THE COMMITTEE SHALL CONSULT WITH THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE, MEDICAL STAFFS, PROFESSIONAL LIABILITY INSURERS AND THE MARYLAND HOSPITAL ASSOCIATION REGARDING QUALITY ASSURANCE PROGRAMS, RISK MANAGEMENT PROGRAMS, COMPLAINT INVESTIGATION, AND ANY OTHER MATTERS CONCERNING THE ESTABLISHMENT OF MEDICAL STANDARDS IN HOSPITALS. THE COMMITTEE SHALL ALSO MONITOR LEGAL ISSUES INCLUDING HOSPITAL MEDICAL STAFF BYLAWS ON THE LOCAL, STATE AND FEDERAL LEVELS. THE COMMITTEE SHALL WORK WITH AND COORDINATE ACTIVITIES WITH THE HOSPITAL MEDICAL STAFF SECTION OF THE AMERICAN MEDICAL ASSOCIATION.

The Bylaws Committee recommends adoption of this bylaw amendment.

7. Proposed Bylaw Amendment to Liaison Committee with Third Party Carriers

- Rationale: To broaden the committee's involvement to include health maintenance organizations and other managed systems of health care delivery.
- Amend Article XI, Section 13 (Liaison Committee with Third Party Carriers) by substituting for it the following new Section 13:

OLD
[ ] indicates deletion

[Section 13. A *LIAISON COMMITTEE WITH THIRD PARTY CARRIERS* of at least two members shall be appointed by the President, who shall designate the Chairman. Its charge shall be to seek resolution of problems and complaints raised by physicians regarding arbitrary, impractical, unreasonable, or unpleasant practices and procedures of third party carriers. This charge does not include the liaison currently engaged in by the Liaison Committee with the Department of Health and Mental Hygiene (the Medicaid Program). The Committee shall not attempt to adjudicate individual physician fees or charges, and is not empowered to discuss fee schedules or other matters that would involve illegal action under State or Federal antitrust regulations.]

NEW
CAPS indicate change

Section 13. A *COMMITTEE ON MANAGED CARE AND THIRD PARTY LIAISON* CONSISTING OF NOT LESS THAN (7) MEMBERS SHALL BE APPOINTED BY THE PRESIDENT, WHO SHALL DESIGNATE THE CHAIRMAN. ITS CHARGE SHALL BE TO MONITOR DEVELOPMENTS INVOLVING MANAGED SYSTEMS OF HEALTH CARE DELIVERY AT THE LOCAL, STATE AND NATIONAL LEVELS. IT SHALL SEEK RESOLUTION TO PROBLEMS AND COMPLAINTS RAISED BY PHYSICIANS INVOLVING HEALTH CARE MAINTENANCE ORGANIZATIONS REGARDING QUALITY OF CARE AND PATIENT DISPOSITION IN THE HOSPITAL OR PRIVATE SETTING. IT SHALL ALSO SEEK RESOLUTION OF PROBLEMS AND COMPLAINTS RAISED BY PHYSICIANS REGARDING ARBITRARY, IMPRACTICAL, UNREASONABLE, OR UNPLEASANT PRACTICES AND PROCEDURES OF THIRD PARTY CARRIERS. THE COMMITTEE SHALL NOT ATTEMPT TO ADJUDICATE INDIVIDUAL PHYSICIAN FEES OR CHARGES, AND IS NOT EMPOWERED TO DISCUSS FEE SCHEDULES OR OTHER MATTERS THAT WOULD INVOLVE ILLEGAL ACTIONS UNDER STATE OR FEDERAL ANTITRUST REGULATIONS. THIS CHARGE DOES NOT INCLUDE LIAISON CURRENTLY ENGAGED IN BY THE SUBCOMMITTEE ON LIAISON WITH MEDICAL ASSISTANCE PROGRAM.

The Bylaws Committee recommends adoption of this bylaw amendment.

8. Proposed Bylaw Amendment to Dissolve the Committee on Physician Assistants as recommended by Executive Committee

- Rationale: Committee has been inactive for the past four years. All issues involving paraprofessionals should be referred to appropriate Faculty committee for consideration.
- Amend Article XI, Section 24 (Committee on Physician Assistants) by striking it in its entirety.

Section 24. A *COMMITTEE ON PHYSICIAN ASSISTANTS* of at least three members shall be appointed annually by the President who shall designate the Chairman. The Maryland Academy of Physician Assistants (MAPA) shall submit names of Physician Assistants to the President for consideration as ex-officio members of this committee. At least one Physician

Assistant shall represent the MAPA Board of Directors. In addition, the Legislative Aide for MAPA shall represent it as an ex-officio member. Physician nominees shall be submitted to MAPA to the President for consideration. These physicians should currently supervise, have supervised in the past, or work or have worked in association with Physician Assistants. The committee shall have as its duty the monitoring of developments in the Physician Assistant profession at local, state and national levels and the dissemination of such information as it obtains to the House of Delegates, appropriate Faculty committees, component societies and individual members of the Faculty. The committee may make recommendations to the Faculty's governing bodies, appropriate Faculty committees and component societies.

The Bylaws Committee recommends adoption of this bylaw amendment.

9. Proposed Bylaw Amendment to Restructure the Committee on Public Health

- Rationale: To reorganize the Committee on Public Health to empower it to function as the primary committee within Med Chi to evaluate and act upon all social and economic aspects of medical care relating to public health. To accomplish this, the following committees would be redesignated as subcommittees within the auspices of the primary Committee on Public Health:

AIDS
Alcoholism and Chemical Dependency
Child and Adolescent Health and Welfare
Immunology and Infectious Diseases
Liaison with Medical Assistance Program
Long-Term Care and Geriatrics
Maternal Health and Welfare
Mental Health
Occupational Health
Sports Medicine

- Amend Article XI, Section 28 (Committee on Public Health) by substituting for it the following new Section 28:

OLD
[ ] indicates deletion

[Section 28. A *COMMITTEE ON PUBLIC HEALTH* of at least five members shall consider and advise upon all aspects of health maintenance, preventive medicine and public health. It shall not conflict in any way with charges made in these bylaws to other committees of the Faculty. Its chairman and members shall be appointed by the President.]

NEW
CAPS indicate change

Section 28. THE *COMMITTEE ON PUBLIC HEALTH* SHALL CONSIST OF A CHAIRMAN (OR TWO CO-CHAIRMEN), AND THE CHAIRMAN OF EACH SUBCOMMITTEE, ALL OF WHOM SHALL BE APPOINTED BY THE PRESIDENT. IT SHALL CONSIDER AND ADVISE UPON ALL ASPECTS OF PUBLIC HEALTH AND PREVENTIVE MEDICINE. IT SHALL MAINTAIN CONTINUOUS LIAISON WITH THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE, FEDERAL AGENCIES AND WITH THE PRIVATE SECTOR. IT SHALL ACT IN AN EDUCATIONAL CAPACITY AND AS A CONSULTANT TO THESE GROUPS IN EVALUATING QUALITY OF CARE, EXPERIMENTAL PROGRAMS INVOLVING ALTERNATIVE METHODS OF HEALTH CARE DELIVERY, AND IN ANY OTHER AREA WHEREIN IMPROVEMENT OF PUBLIC HEALTH AND PREVENTIVE MEDICINE SERVICES MAY BE UNDERTAKEN. THE COMMITTEE SHALL MONITOR DEVELOPMENTS INVOLVING ALLIED HEALTH PROFESSIONALS AT LOCAL, STATE, AND NATIONAL LEVELS AND MAY MAKE RECOMMENDATIONS TO THE FACULTY'S GOVERNING BODIES. THE COMMITTEE ON PUBLIC HEALTH SHALL DIRECT AND COORDINATE THE ACTIVITIES OF ITS SUBCOMMITTEE IN AREAS OF IMMUNOLOGY AND INFECTIOUS DISEASES; AIDS; MATERNAL HEALTH AND WELFARE; CHILD AND ADOLESCENT HEALTH AND WELFARE; SPORTS MEDICINE; LONG-TERM CARE AND GERIATRICS; ALCOHOLISM AND CHEMICAL DEPENDENCY; OCCUPATIONAL HEALTH; AND MENTAL HEALTH. THROUGH ITS SUBCOMMITTEES, THE PUBLIC HEALTH COMMITTEE SHOULD HAVE THE FOLLOWING AS ITS OPERATING GOALS: ARTICLES FOR POSSIBLE PUBLICATION IN THE MARYLAND MEDICAL JOURNAL, DEVELOPMENT OF SEMINARS/CONFERENCES FOR PHYSICIAN GROUPS, AS WELL AS THE PUBLIC AT LARGE, AND THE DEVELOPMENT OF A PROGRAM TO BE PRESENTED DURING MED CHI'S ANNUAL MEETING.

- Amend Article XI, Section 1 (Committee on AIDS) by striking it in its entirety and inserting the following new section as subsection (a) of the Committee on Public Health:

OLD
[ ] indicates deletion

[Section 1. A *COMMITTEE ON AIDS* shall be appointed annually. The Chairman and members shall be appointed by the President. The committee shall work toward educating the public and the membership with respect to all aspects of AIDS. It shall review current medical treatment and policies of industry, housing, hospitals, and schools with respect to AIDS

patients, present scientific information relative to AIDS, and shall offer its services to component medical societies, hospital medical staffs, local and state health departments and school systems. The committee may cooperate with government and private agencies working in the field of AIDS and invite the attendance of physicians and non-physician members of such agencies to work with the committee on a non-voting basis.]

NEW
CAPS indicate change

(a) SUBCOMMITTEE ON AIDS - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL WORK TOWARD EDUCATING THE PUBLIC AND THE MEMBERSHIP WITH RESPECT TO ALL ASPECTS OF AIDS. IT SHALL REVIEW CURRENT MEDICAL TREATMENT AND POLICIES OF INDUSTRY, HOUSING, HOSPITALS, AND SCHOOLS WITH RESPECT TO AIDS PATIENTS, PRESENT SCIENTIFIC INFORMATION RELATIVE TO AIDS, AND SHALL OFFER ITS SERVICES TO COMPONENT MEDICAL SOCIETIES, HOSPITAL MEDICAL STAFFS, LOCAL AND STATE HEALTH DEPARTMENTS AND SCHOOL SYSTEMS. THE SUBCOMMITTEE MAY COOPERATE WITH GOVERNMENT AND PRIVATE AGENCIES WORKING IN THE FIELD OF AIDS AND INVITE THE ATTENDANCE OF PHYSICIANS AND NON-PHYSICIAN MEMBERS OF SUCH AGENCIES TO WORK WITH THE SUBCOMMITTEE ON A NON-VOTING BASIS. IT SHALL ALSO HAVE CROSS-REPRESENTATION WITH THE SUBCOMMITTEE ON IMMUNOLOGY AND INFECTIOUS DISEASES.

- Amend Article XI, Section 2 (Committee on Alcoholism and Chemical Dependency) by striking it in its entirety and inserting the following new section as subsection (b) of the Committee on Public Health:

OLD
[ ] indicates deletion

[Section 2. A *COMMITTEE ON ALCOHOLISM AND CHEMICAL DEPENDENCY* of at least five members appointed annually by the President shall work toward educating the public and the membership with respect to alcoholism and chemical dependency as illnesses; present scientific information to physicians relative to alcoholism and chemical dependency; and offer its services to hospital medical staffs in an attempt to have such members understand alcoholism and chemical dependencies. The committee may cooperate with government and private agencies working in the field of alcoholism and chemical dependency and invite the attendance of physicians and non-physician members of such agencies to work with the committee on a non-voting basis. The President shall designate the chairman.]

NEW
CAPS indicate change

(b) *SUBCOMMITTEE ON ALCOHOLISM AND CHEMICAL DEPENDENCY* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL WORK TOWARD EDUCATING THE PUBLIC AND THE MEMBERSHIP WITH RESPECT TO ALCOHOLISM AND CHEMICAL DEPENDENCY AS ILLNESSES; PRESENT SCIENTIFIC INFORMATION TO PHYSICIANS RELATIVE TO ALCOHOLISM AND CHEMICAL DEPENDENCY; AND OFFER ITS SERVICES TO HOSPITAL MEDICAL STAFFS IN AN ATTEMPT TO HAVE SUCH MEMBERS UNDERSTAND ALCOHOLISM AND CHEMICAL DEPENDENCIES. THE SUBCOMMITTEE MAY COOPERATE WITH GOVERNMENT AND PRIVATE AGENCIES WORKING IN THE FIELD OF ALCOHOLISM AND CHEMICAL DEPENDENCY AND INVITE THE ATTENDANCE OF PHYSICIANS AND NON-PHYSICIAN MEMBERS OF SUCH AGENCIES TO WORK WITH THE SUBCOMMITTEE ON A NON-VOTING BASIS.

- Amend Article XI, Section 28 (Committee on Public Health) by inserting the following new subsection

NEW
CAPS indicate change

(c) *SUBCOMMITTEE ON CHILD AND ADOLESCENT HEALTH AND WELFARE* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL REPORT TO THE COMMITTEE ON PUBLIC HEALTH ON ALL MATTERS INVOLVING INFANT, CHILD AND ADOLESCENT HEALTH.

- Amend Article XI, Section 28 (Committee on Public Health) by inserting the following new subsection (d):

NEW
CAPS indicate change

(d) *SUBCOMMITTEE ON IMMUNOLOGY AND INFECTIOUS DISEASES* A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL REPORT TO THE COMMITTEE ON PUBLIC HEALTH ON ALL MATTERS INVOLVING IMMUNOLOGY AND INFECTIOUS DISEASES. IT SHALL ALSO HAVE CROSS-REPRESENTATION WITH THE SUBCOMMITTEE ON AIDS.

- Amend Article XI, Section 15 (Liaison Committee with the Department of Health and Mental Hygiene) by striking it in its entirety and inserting the

following new section as subsection (e) of the Committee on Public Health:

OLD

[ ] indicates deletion

[Section 15. A *LIAISON COMMITTEE WITH THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE* consisting of not less than seven members shall be appointed by the President who shall designate the Chairman. Its main responsibility will be to maintain continuous liaison with the Department, particularly as it involves the Medical Assistance Program, the payments made under such programs to providers of health care services, and all other facets of operation of this program. It shall act as a consultant to the Department in evaluating the quality of care, experimental programs involving alternative methods of delivery of care and any other area wherein improvement of health services provided to medical assistance patients may be undertaken.]

NEW

CAPS indicate change

(e) *SUBCOMMITTEE ON LIAISON WITH MEDICAL ASSISTANCE PROGRAM* - A LIAISON SUBCOMMITTEE WITH THE MEDICAL ASSISTANCE PROGRAM CONSISTING OF FIVE MEMBERS SHALL MAINTAIN CONTINUOUS LIAISON WITH THE MEDICAL ASSISTANCE PROGRAM, THE PAYMENTS MADE UNDER SUCH PROGRAMS TO PROVIDERS OF HEALTH CARE SERVICES, AND ALL OTHER FACETS OF OPERATION OF THIS PROGRAM. IT SHALL ACT AS A CONSULTANT TO THE MEDICAL ASSISTANCE PROGRAM IN EVALUATING THE QUALITY OF CARE, EXPERIMENTAL PROGRAMS INVOLVING ALTERNATIVE METHODS OF DELIVERY OF CARE AND ANY OTHER AREA WHEREIN IMPROVEMENT OF HEALTH SERVICES PROVIDED TO MEDICAL ASSISTANCE PATIENTS MAY BE UNDERTAKEN.

- Amend Article XI, Section 16 (Committee on Long-Term Care and Geriatrics) by striking it in its entirety and inserting the following new section as subsection (f) of the Committee on Public Health:

OLD

[ ] indicates deletion

[Section 16. A *COMMITTEE ON LONG-TERM CARE AND GERIATRICS*, consisting of not less than six members shall be appointed by the President who shall designate the Chairman each year. Its duties and responsibilities shall include but not be limited to the evaluation of health care rendered in long-term care and geriatric facilities, geriatric rehabilitation facilities, and home health care services; development of fundamental principles involved in such facilities; and by outpatient and home health care services providers; serve in an advisory capacity to ensure that the goals established by the committee are being met in all such facilities; work with those governmental and other agencies which are involved in the provision and delivery of long-term care and geriatrics services; develop and seek funding for any research projects that might improve the quality of such long-term care and geriatrics services; develop interaction of the various professional and non-professional groups concerned with long-term care and geriatrics, preparing and presenting educational programs to acquaint the profession, the public and others with problems relating to services in such institutions and to integrate these services into the total health care system.]

NEW

CAPS indicate change

(f) *SUBCOMMITTEE ON LONG-TERM CARE AND GERIATRICS* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL HAVE AS ITS DUTIES AND RESPONSIBILITIES THE EVALUATION OF HEALTH CARE RENDERED IN LONG-TERM CARE AND GERIATRIC FACILITIES, GERIATRIC REHABILITATION FACILITIES, AND HOME HEALTH CARE SERVICES; DEVELOPMENT OF FUNDAMENTAL PRINCIPLES INVOLVED IN SEEING THAT QUALITY HEALTH SERVICES ARE PROVIDED IN SUCH FACILITIES, AND BY OUTPATIENT AND HOME HEALTH CARE SERVICE PROVIDERS; SERVE IN AN ADVISORY CAPACITY TO ENSURE THAT THE GOALS ESTABLISHED BY THE SUBCOMMITTEE ARE BEING MET IN ALL SUCH FACILITIES; WORK WITH THESE GOVERNMENTAL AND OTHER AGENCIES WHICH ARE INVOLVED IN THE PROVISION AND DELIVERY OF LONG-TERM CARE AND GERIATRICS SERVICES; DEVELOP AND SEEK FUNDING FOR ANY RESEARCH PROJECTS THAT MIGHT IMPROVE THE



Thelma Rector, Secretary of the Maryland Thoracic Society, presents award to Med Chi for its efforts in the fight against lung disease.

QUALITY OF SUCH LONG-TERM CARE AND GERIATRICS SERVICES; DEVELOP INTERACTION OF THE VARIOUS PROFESSIONAL AND NON-PROFESSIONAL GROUPS CONCERNED WITH LONG-TERM CARE AND GERIATRICS, PREPARING AND PRESENTING EDUCATIONAL PROGRAMS TO ACQUAINT THE PROFESSION, THE PUBLIC AND OTHERS WITH PROBLEMS RELATING TO SERVICES IN SUCH INSTITUTIONS AND TO INTEGRATE THESE SERVICES INTO THE TOTAL HEALTH CARE SYSTEM.

• Amend Article XI, Section 28 (Committee on Public Health) by inserting the following new subsection (g):

NEW
CAPS indicate change

(g) *SUBCOMMITTEE ON MATERNAL HEALTH AND WELFARE* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL REPORT TO THE COMMITTEE ON PUBLIC HEALTH ON ALL ISSUES INVOLVING MATERNAL HEALTH INCLUDING MATERNAL MORBIDITY AND MORTALITY, EVOLUTION OF ALL PERINATAL DEATHS, AND THE REVIEW OF POLICIES AND PROCEDURES THAT HAVE IMPACT UPON MATERNAL MORBIDITY AND MORTALITY.

• Amend Article XI, Section 20 (Committee on Mental Health) by striking it in its entirety and inserting the following new section as subsection (h) of the Committee on Public Health:

OLD
[ ] indicates deletion

[Section 20. A *COMMITTEE ON MENTAL HEALTH* of at least five members shall investigate, consider and advise upon all areas of emotional and mental health and maintain close liaison with the areas of mental retardation and alcoholism. Its chairman and members shall be appointed by the President.]

NEW
CAPS indicate change

(h) *SUBCOMMITTEE ON MENTAL HEALTH* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL INVESTIGATE, CONSIDER AND ADVISE UPON ALL AREAS OF EMOTIONAL AND MENTAL HEALTH AND MAINTAIN CLOSE LIAISON WITH THE AREAS OF MENTAL RETARDATION AND SUBSTANCE ABUSE.

• Amend Article XI, Section 22 (Occupational Health Committee) by striking it in its entirety and inserting the following new section as subsection (i) of the Committee on Public Health:

OLD
[ ] indicates deletion

[Section 22. An *OCCUPATIONAL HEALTH COMMITTEE* of at least five members shall study and report as it deems advisable upon all phases of occupational health including the working environment. It shall consider such subjects as occupational health problems in industry; and the quality and health environment in industry as it affects the working person. It shall also establish liaison with the health care practitioner to discuss areas of mutual concern; and it shall advise all physicians with respect to employee absenteeism; the proper use of work absence certificates, return to work authorizations, appropriate use of health insurance benefits, and any other related areas. Its chairman and members shall be appointed by the President.]

NEW
CAPS indicate change

(i) *SUBCOMMITTEE ON OCCUPATIONAL HEALTH* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL STUDY AND REPORT AS IT DEEMS ADVISABLE UPON ALL PHASES OF OCCUPATIONAL HEALTH INCLUDING THE WORKING ENVIRONMENT. IT SHALL CONSIDER SUCH SUBJECTS AS OCCUPATIONAL HEALTH PROBLEMS IN INDUSTRY; AND THE QUALITY AND HEALTH ENVIRONMENT IN INDUSTRY AS IT AFFECTS THE WORKING PERSON. IT SHALL ALSO MONITOR THE ACTIVITIES OF THE WORKERS COMPENSATION COMMISSION TO INCLUDE REIMBURSEMENT POLICIES AND PROCEDURES, DISABILITY DETERMINATION CRITERIA AND ALL OTHER AREAS. IT SHALL ESTABLISH LIAISON WITH THE HEALTH CARE PRACTITIONERTO DISCUSS AREAS OF MUTUAL CONCERN; AND IT SHALL ADVISE ALL PHYSICIANS WITH RESPECT TO EMPLOYEE ABSENTEEISM, THE PROPER USE OF WORK ABSENCE CERTIFICATES, RETURN TO WORK AUTHORIZATIONS, APPROPRIATE USE OF HEALTH INSURANCE BENEFITS, AND ANY OTHER RELATED AREAS.

• Amend Article XI, Section 28 (Committee on Public Health) by inserting the following new subsection (j):

NEW
CAPS indicate change

(j) *SUBCOMMITTEE ON SPORTS MEDICINE* - A SUBCOMMITTEE OF AT LEAST FIVE MEMBERS SHALL REPORT TO THE COMMITTEE ON PUBLIC HEALTH ON ALL MATTERS INVOLVING SPORTS MEDICINE AT THE STATE AND NATIONAL LEVEL.

The Bylaws Committee recommends adoption of this bylaw amendment.

This concludes the report of the Bylaws Committee.

Alex Azar MD, Chairperson, Salisbury

A.H. Ghiladi MD, Towson
J. *Richard Lilly* MD, Hyattsville
Leslie R. Miles, Jr. MD, Lonaconing
Hilary T. O'Herlihy MD, Glen Burnie
Joseph Snyder MD, Silver Spring
Karl H. Weaver MD, Baltimore

Computers in Medicine

Mr. President and Members of the House of Delegates:

The Computers in Medicine Committee held several meetings throughout the course of the year. The Committee maintains the Maryland Med-Sig, the computerized bulletin board system of Medical and Chirurgical Faculty. Dr. Gerald Oster has been the system operator (sysop) of Med-Sig since its inception. The Committee is involved in helping the Pennsylvania Medical Society set up a similar system, and physicians in Delaware have made similar requests. One of the Committee's goals was to provide the system as an internal Med Chi communication tool for use between committee members.

The Committee contributed articles on computers and physicians to the May 1989 issue of the *Maryland Medical Journal* and is continuing a monthly department in *MMJ*, Computer Bytes, which deals with helpful and current computer tips in the field of medicine. This is in accordance with the Committee's charge to acquaint and educate physicians in the use of computers in their practices.

The Committee has given live computer demonstrations to hospital medical staffs using a computer with a modem, phone line, and projection system.

These are potential future projects:

1. Starting a physicians' computer-user group for both novices and advanced users.
2. Evaluating medical software.
3. Providing physicians with a computer equipment-buyers group.
4. Continuing in the education of physicians using computers.
5. Promoting Med-Sig as a communication tool for physicians in Maryland.

H.G. Oster MD, Chairperson

Clifford G. Andrew MD
Martin Berger MD
David W. Fricke MD
Frederick C. Hansen MD
Gerard M. Lowder MD
Richard A. Margolis MD
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William J. Pogoda MD
Jeffrey C. Schultz MD
William R. Stern MD
Homayoon Taavon MD
Shirley S.L. Yang MD

Continuing Medical Education Review

Mr. President and Members of the House of Delegates:

The Continuing Medical Education Review Committee sponsored a session during Med Chi's 1989 Annual Meeting with speakers H. Gerald Oster MD, Director of the Med Chi Bulletin Board, and Darrell S. Rigel MD of the New York University Medical School giving a presentation, "Next Button Please - A Glimpse into Computer Assisted Teaching Techniques of the 1990s." The session format presented a unique method in medical lecture presentation and was well received by all the participants.

The Committee held six meetings during the past year. At this time, 61 hospitals and organizations are accredited by Med Chi.

Action was taken on the following hospitals/organizations that are accredited by Med Chi to provide intrastate Category I continuing medical education programs:

1. American Cancer Society, Maryland Division
2. American Heart Association, Maryland Affiliate
3. American Lung Association of Maryland
4. Anne Arundel General Hospital
5. Baltimore County General Hospital
6. Bon Secours Hospital
7. Carroll County General Hospital
8. Center for Health Education, Inc.
9. Chesnut Lodge
10. Children's Hospital, Inc.
11. Church Hospital
12. Community Psychiatric Clinic, Inc.
13. Crownsville Hospital Center
14. AMI Doctors' Hospital of Prince George's County
15. Dorchester General Hospital
16. Fallston General Hospital
17. Franklin Square Hospital
18. Frederick Memorial Hospital
19. Good Samaritan Hospital
20. Greater Baltimore Medical Center
21. Greater Laurel Beltsville Hospital
22. Harbor Hospital (formerly South Baltimore General Hospital)
23. Harford Memorial Hospital
24. Holy Cross Hospital
25. Homewood Hospital Center, Inc. (formerly North Charles Hospital)
26. Howard County General Hospital, Inc.
27. Kernan Hospital
28. Leland Memorial Hospital

29. Levindale Hebrew Geriatric Center and Hospital, Inc.
30. Liberty Medical Center
31. Maryland General Hospital
32. Maryland Hospital Education Institute
33. Maryland Psychiatric Society
34. Maryland Radiological Society
35. Memorial Hospital, Cumberland
36. Memorial Hospital, Easton
37. Mercy Hospital
38. Montgomery County Medical Society
39. Montgomery General Hospital
40. Montgomery Village Seminars
41. The Neurology Center, P.A.
42. North Arundel Hospital
43. Peninsula General Hospital
44. Prince George's County Medical Society
45. Prince George's Hospital Center
46. Sacred Heart Hospital
47. St. Agnes Hospital
48. St. Joseph Hospital
49. Shady Grove Adventist Hospital
50. Sheppard & Enoch Pratt Hospital
51. Sinai Hospital
52. Southern Maryland Hospital, Inc.
53. Spring Grove Hospital
54. Springfield Hospital Center
55. Suburban Hospital
56. Taylor Manor Hospital
57. Union Memorial Hospital
58. University Health Center, University of Maryland
59. Veterans Administration Hospital, Perry Point
60. Washington Adventist Hospital
61. Washington County Hospital

Eugene P. Libre MD, Chairperson

Timothy D. Baker MD
James Castellano MD
Richard F. Cioffi MD
Irvin H. Cohen MD
Worth B. Daniels MD
Mesbah U. Dowla MD
Jawad U. Hasnain MD
Maria C. Jacobs MD
Carol J. Johns MD
Deusdedit Jolbitado MD
Henry H. Kwah MD
Gordon W. Mella MD
Albert I. Mendeloff MD
Abdul Nayeem MD
Baeklyo Shin MD
R. Kennedy Skipton MD
Bernard Tabatznik MD
William L. Thomas MD

Advisory Members
John W. Bullard PhD
Jack L. Mason PhD

Delegation to the AMA House of Delegates - Interim Meeting

Mr. President and Members of the House of Delegates:

The AMA House of Delegates met in Dallas, December 4-7, 1988.

There were 423 delegates seated including the following new specialty society that was granted a voting delegate at thismeeting: American Academy of Pain Medicine.

The House composition is:

336 delegates representing state medical associations
77 delegates representing national medical specialty societies
10 section and service delegates representing medical students, resident physicians, hospital medical staffs, young physicians, Army, Navy, Air Force, USPHS, and the Veterans Administration.

Address of the President

James E. Davis MD, AMA President, called for continued AMA leadership in addressing the severe shortage of nurses and in dealing with the Resource-Based Relative Value Scale (RBRVS). Calling the AMA-proposed "Registered Care Technologist" an idea whose time has come, Dr. Davis asked for the opportunity to try it out in order to provide more bedside care givers. Turning to the RBRVS, Dr. Davis urged physicians to "remain unified and not split into warring factions." "American medicine cannot afford a divided profession," he added. "Indeed, if we divide, American medicine will not survive as we know it today."

Dr. Davis also reported on his inaugural challenge to physicians "to tithe four hours a week to community service." He stated that he was pleased with the response. "I have had many favorable communications from physicians, medical organizations, and public groups," Dr. Davis said. "They tell me they agree that physicians need to be more extensively perceived as caring individuals who take a vital part in community life."

Antitrust Speaker

Charles F. Rule, head of the Antitrust Division of the US Justice Department, gave a major policy speech to the House. He warned the delegates that felony criminal charges will be leveled against competing physicians if they fix fees, allocate patient territories, or boycott insurers. He said that ignorance of antitrust law or belief that actions were undertaken to improve patient care are no defense to criminal antitrust charges.

Items of Business

The delegates considered 66 reports and 129 resolutions. The AMA's position on the Resource-Based Relative Value Scale clearly dominated the meeting and commanded the majority of the delegates' time and attention.

Resource-Based Relative Value Study

The Speakers arranged the House schedule so that the RBRVS issue could be discussed alone in the Reference Committee without competing meetings. The discussion continued on Monday, and the Reference Committee prepared a report that offered accom-

modating amendments to the comprehensive Board analysis on the Harvard study.

The House approved the following recommendations:

Relative Value Scale

1. That the AMA reaffirm its current policy in support of adoption of a fair and equitable Medicare indemnity payment schedule under which physicians would determine their own fees and Medicare would establish its payments for physician services using:
   a. an appropriate RVS based on the resource costs of providing physician services;
   b. an appropriate monetary conversion factor; and
   c. an appropriate set of conversion factor multipliers.
2. That the AMA adopt the position that the current Harvard RBRVS study and data, *when sufficiently expanded, corrected and refined*, would provide an acceptable basis for a Medicare indemnity payment system.
3. That the AMA work with Harvard, the national medical specialty societies, the PPRC, HCFA, other interested and knowledgeable parties, and the Congress to refine and modify the Harvard RBRVS to ensure that it is technically adequate and can be implemented in a timely and minimally disruptive manner when needed revisions have been satisfactorily completed. Refinement and completion of the RBRVS will require:
   - appropriate restudy of the services of specialties whose RBRVS data have significant, documented technical deficiencies;
   - fundamental improvement of the measurement of practice costs and amortized specialty training costs;
   - expansion of the RBRVS to more specialties and services;
   - development of an extrapolation method for visits;
   - revision, refinement, and expansion of the measurement of pre- and post-work;
   - expansion and validation of the extrapolation methodology;
   - development of expanded relative value estimates for services for which global fees are customarily utilized as standard definitions are developed and accepted;
   - appropriate action to address concerns specific to individual specialties; and
   - that the AMA work to establish a mechanism to ensure that addtional concerns that may be identified are communicated to and addressed by the appropriate parties and external validation is conducted by the AMA.

Balance Billing

4. That the Association reaffirm its strong support for physicians' right to decide on a claim-by-claim basis whether or not to accept Medicare assignment and its opposition to elimination of balance billing.
5. That the AMA reaffirm its opposition to the continuation of the Medicare maximum allowable actual charge (MAAC) limits.
6. That the Association promote enhanced physician discussion of fees with patients as an explicit objective of a Medicare indemnity payment system.
7. That the Association expand its activities in support of state and county medical society-initiated voluntary assignment programs for low-income Medicare beneficiaries.

Transition

8. That a Medicare indemnity payment system be implemented through a blending transition, in which physician payments would be determined in increasing proportion by an RBRVS-based indemnity payment schedule and in decreasing proportion by the current CPR payment system, or prevailing charges only.The specific transition period should be chosen to strike an appropriate balance between minimizing disruptions for patients and physicians while minimizing the complexity of the process. In addition, the effects of the new system should be monitored during the transition, with corrections made as needed.

Geographic Payment Variations

9. That the AMA reaffirm its current policy that payments under a Medicare indemnity payment system should reflect valid and demonstrable geographic differences in practice costs, including professional liability insurance premiums. In addition, as warranted and feasible, the costs of such premiums should be reflected in the payment system in a manner distinct from the treatment of other practice costs.
10. That payment localities should be determined based on principles of reasonableness, flexibility, and common sense (for example, localities could consist of a combination of regions, states, and metropolitan/nonmetropolitan areas within states) based on the availability of high quality data.



Participants during a morning break at the registration area.

11. That geographic differentials should be addressed simultaneously with specialty differentials.

12. That, in addition to adjusting indemnity payments based on geographic practice cost differentials, a method of adjusting payments to effectively remedy demonstrable access problems in specific geographic areas should be developed and implemented.

13. That the AMA support the general principle that an RBRVS-based payment schedule should include differentials in payment for CPT codes where there are differential resource costs ("total work" and practice and training costs) across specialties. The following criteria should guide into establishment of differentials for specific services:

a. when the resource costs are substantially different across specialties; and

b. when the relevant codes are not sufficiently precise to differentiate among the content or physician work of a service across specialties, and cannot be readily refined to become so.

In addition, as few separate payment categories as possible should be established to minimize system complexity. In general, specialty differentials should be avoided except where absolutely warranted by resource cost data.

14. Specialty differentials should apply to all CPT-coded services for which a differential exists.

15. Where specialty differentials exist, criteria for specialty designation should avoid *sole* dependence on rigid criteria, such as board certification or completion of residency training. Instead, a variety of general national criteria should be utilized, with carriers having sufficient flexibility to respond to local conditions. In addition to board certification or completion of a residency, such criteria could include, but not be limited to:

a. partial completion of a residency plus time in practice;

b. local peer recognition; and

c. carrier analysis of practice patterns.

A provision also should be implemented to protect the patients of physicians who have practiced as specialists for a number of years.

Initial Conversion Factor

16. That the Association strongly oppose any attempt to use the initial implementation or subsequent use of any new Medicare payment system to freeze or cut Medicare expenditures for physician services in order to produce federal budget savings.

Updating the Fee Schedule

17. That whatever process is selected to update the RVS and conversion factor, only the AMA has the resources, experience, and umbrella structure necessary to represent the collective interests of medicine, and that it seek to do so with appropriate mechanisms for full participation from all of organized medicine, especially taking advantage of the unique contributions of national medical specialty societies.

Volume and Intensity

18. That the Association strongly oppose implementation of Medicare expenditure targets, which will lead to the rationing of care for Medicare beneficiaries, and instead support constructive approaches to enhancing quality and appropriateness of care.

Registered Care Technologists

The House received a progress report on the AMA's proposal to create a new category of bedside care giver called Registered Care Technologists (RCTs). The Board announced that one or more of similar programs would be evaluated and a pilot project would be implemented to demonstrate and evaluate the training of RCTs.

In a related action the House adopted an amended resolution proposed by the Reference Committee and the New York delegation that responded to testimony that the AMA should seek alternative proposals that will be less confrontational with our nursing partners. The resolution reads:

> That the AMA continue to seek solutions to the problem of the shortage of bedside care givers, in addition to the Registered Care Technologists Program.
> That the American Medical Association recognizing the concerns of our partners in health care, the nursing profession, work together with the American Nurses' Association and other nursing organizations to addressthe nursing shortage, and to continue to seek innovative ways to alleviate the acute shortage of bedside care providers, and that the Board of Trustees report to the House of Delegates at the Annual Meeting in 1989.

Faculty Sexual Involvement with Medical Trainees

Sexual harassment and sexual exploitation between medical trainees and their faculty supervisors was the subject of a resolution submitted by the Resident Physicians section.

The ethical issues raised by this conduct caused considerable debate including a personal account.

The House approved an amended resolution that calls on the AMA:

> To study the ethical issue raised by the existence of sexual harassment and sexual exploitation between medical trainees (medical students and residents) and their faculty supervisors, with particular attention to the effect of such relationships upon the quality of medical training, patient care, trainee evaluation, and the trainees' well-being; and
> To instruct its representatives to the Accreditation Council for Graduate Medical Education to encourage its Residency Review Committees to establish a mechanism to identify and eliminate instances of sexual harassment and for sexual exploitation in clinical training programs.

Professional Liability

Professional liability and insurance continues to be a major issue before the House of Delegates.

The House received a report describing the work of AMA's Special Task Force on Professional Liability and Insurance and the Advisory Panel on Professional Liability. The report discussed the continuing study of a number of resolutions relating to expert medical witnesses.

In other actions the House adopted policy calling on the AMA:

> To establish a policy that each physician should be able to maintain what he or she determines to be an appropriate amount of liability insurance except where otherwise required by state law; and
> To support the policy that physicians not be required to divulge the exact amount of their professional liability coverage as a condition of hospital medical staff privileges but should be allowed to provide verification that the minimum level of coverage required by the medical staff bylaws is in effect.

Alcohol Use During Pregnancy

The House approved a resolution asking the AMA:

> To seek appropriate federal or state legislation to requirethat warning signs, stating that drinking alcoholic beverages during pregnancy can cause birth defects, be posted in a prominently visible location in all places where alcoholic beverages are sold.

"Medically Unnecessary" Statements

The House commended the Board of Trustees for its activities on this issue and adopted the following policy:

> That the American Medical Association continue to call for the repeal of the "medically unnecessary" provisions of section 9332(c) of the Omnibus Budget Reconciliation Act of 1986; and
> That until such time as repeal is achieved, the American Medical Association urge the Health Care Financing Administration to require that there be stated on the medically unnecessary notices mailed by carriers (a) the basis for the denial; (b) the name, position, and title of the person to be contacted regarding questions about the review; and (c) the screening criteria or parameter used in denying payment for the service.

Nursing Homes

The House adopted the following statement regarding quality of care and physicians reimbursement in the nursing home setting:

> That the American Medical Association and the federation work to educate federal and state legislative bodies about the issues of quality from the perspective of attending physicians and medical directors, and express our commitment to quality care in the nursing home; and
> That the AMA work with legislative and administrative bodies to ensure adequate payment for routine visits and visits for acute condition changes including the initial assessment and ongoing monitoring of care until the condition is resolved; and
> That the AMA assist attending physicians and medical directors to develop quality assurance guidelines and methods appropriate to the nursing home setting.

Medicare Secondary Payer Program

The House adopted a recommendation submitted by Reference Committee G, that Resolution 131 submitted by the Maryland Delegation, correctly addressed a serious problem and strongly recommended its adoption. The House adopted the following resolution:

> That the American Medical Association urge HCFA to revise the Medicare Secondary Payer Program so that the determination of other insurance is made at the time of initial application or in a manner separate from the claims processing mechanism.

The Reference Committee further stated that they heard a series of complaints concerning the implementation of Medicare's Secondary Payer Program, problems stemming from the Program's procedure by which the carrier will not make payments on a claim until the beneficiary has responded to the inquiry regarding secondary payers. The Maryland Delegation is especially proud of the action taken by the AMA House of Delegates inasmuch as Resolution 131 was a Maryland submission.

Albert M. Antlitz MD, Chairperson

Delegates	**Alternate Delegates**
Roland T. Smoot MD	*John H. Hebb* MD
Donald T. Lewers MD	*Philip L. Schneider*
George S. Malouf MD	*William E. Venanzi, Jr.*
Michael R. Dobridge MD	*Henry N. Wagner, Jr.* MD
Charles F. O'Donnell MD	*Hilda I. Houlihan* MD
	Joseph Snyder MD

Drugs

Mr. President and Members of the House of Delegates:

This past year the Committee's attention has focused on the prescribing practices of physicians referred to us by the Board of Physician Quality Assurance (BPQA) and on the regulations governing the prescribing of amphetamines. In some cases, patients have questioned the medications prescribed by their physicians and have filed complaints against them. These complaints are referred to us for evaluation and report to the BPQA. In other instances, during routine pharmacy surveys, the Division of Drug Control of the Department of Health and Mental Hygiene uncovers what appears to be questionable prescribing of controlled substances by physicians. This information is reported to the Chairman of the Committee on Drugs, who is appointed Medical Consultant to the Department of Health and Mental Hygiene. The Medical Consultant reviews the survey and if, in his

opinion, the prescribing is questionable, the survey is forwarded to the BPQA for referral in accordance with the Peer Review Management Protocol.

The other major area of discussion this past year related to the prescribing of amphetamines. Regulations governing such prescribing have been in existence for over 12 years; however, they have not been enforced to their full extent. The Committee explored the nature of the regulations and their interpretation and found that most physicians are not aware of these regulations, and many may be prescribing these medications outside the law. Authorization to prescribe amphetamines must be obtained from the Medical Consultant through written correspondence, which should include the patient's name or specific identifying information, the diagnosis, the medication prescribed, and information on how the diagnosis was reached. The physician then may be provided a permanent authorization to prescribe or be denied authorization. The process will be researched in the upcoming year to determine the current need for these regulations.

The Committee was involved in defeating legislation that would introduce Triplicate Prescription in Maryland. Committee members oppose such legislation for many reasons, including concern that physicians will discontinue prescribing needed medication to patients, fearing they may be questioned by the BPQA concerning their prescribing practices. The Committee also is concerned that there are insufficient treatment facilities for drug-addicted patients who want to be helped.

During the next year, the Committee anticipates developing and sponsoring educational programs for physicians on prescribing medications to their patients. Physicians should use the knowledge they obtained in medical school and their best judgment when prescribing medications. If a physician is suspicious about a particular patient, he/she should ask more questions or seek consultations with other physicians.

Committee members and staff will strive to maintain balance between educating physicians with careless prescribing practices and supporting discipline for physicians who misuse their prescribing privileges.

The Chairman is appreciative of the time, effort, and devotion of the Committee members and staff to this important aspect of physician education.

Nelson G. Goodman MD, Chairperson

Sukumaram Aryangat MD
Juan Beltran MD
Thomas C. Cullis MD
Lewis II. Dennis MD
George V. George MD
Barry S. Gold MD
Lawrence Y. Kline MD
Ramesh Khurana MD
Don M. Long MD
John O. Meadows MD
Peter H. Rheinstein MD
Patrick J. Sheehan MD
John A. Singer MD
John R. Smith MD
Aroon Suansilppongse MD
Richard F. Tyson MD

Emergency Medical Services

Mr. President and Members of the House of Delegates:

The Committee had many projects and subjects considered during the course of the year despite the low attendance at meetings.

The main activity was consideration of a possible compromise with the Managed Care Plans (MCP) and dealing with their clients as emergency patients. At the last meeting of the Committee, it was agreed that to treat these patients any differently than regular emergency patients might well jeopardize care or subrogate the excellence in care given. Therefore, it was resolved:

> All patients should be examined and medically screened regardless of their race, ethnic background, health care plan, or ability to pay.
> All patients should be treated the same and as expeditiously as possible.

Further:

> Based on patient care issues as well as federal legislative mandates, the EMS Committee of the Medical and Chirurgical Faculty recommends that only those patients be transferred to other facilities if such are not provided at the transferring facility.

It became the consensus of the small number of emergency physicians attending an ad hoc panel of MCP representatives, the Med Chi representatives, and members from ACEP that MCP did not wish to reach a meaningful understanding concerning the issues of emergency medical care.

Approximately 30 cases of less-than-optimal patient care or burdensome bureaucracy were heard and/or documented concerning the treatment of MCP patients. In the end, it was belived that by far the best plan would be to provide superior and equal medical care for all patients, without regard to their ability to pay for the services rendered.

Other items that the Committee worked on or completed are:

1. The approval of Criteria for Base Station Physicians.
2. Monitored the Medicaid Initiative and coordinated some of the effort in this regard with Maryland ACEP and members of Med Chi.
3. Monitored HCFA transfer issues as they relate to hospitals and Emergency Departments in Maryland.
4. Monitored and received for informational purposes from MIEMSS:
   a. Hospice Care Guidelines
   b. Base Station-Consultation Center Criteria
   c. Helicopter Transport issues
   d. Field Triage Tags
   e. Pre-Hospital Run Sheet updates
   f. Pre-Hospital Paramedic Standards
5. Reviewed Indigent Medical Care Issues.
6. Reviewed problems associated with the treatment of hypothermic patients.
7. Recommended support for various hand gun legislative efforts.

8. Assisted Maryland ACEP in the selection of a speaker for the Annual Meeting.
9. Sought to provide an editor for an EMS page/section of the *Maryland Medical Journal.*

Peter M. Fahrney MD, Chairperson

Frank T. Barranco MD
Lawrence F. Blob MD
Alexander P. Cadoux MD
John B. DeHoff MD
Randy S. Ellis MD
Leonard H. Flax MD
Howard Mahon-Haft MD
Eldon L. Hawbaker MD
Daniel E. Kohn MD
Gary W. Langston MD
Sergio Mateo MD
Eugene Meyer MD
Frederick Miltenberger MD
Robin K. Miller MD
Ashwin L. Nanavati MD
Ameen I. Ramzy MD
Steven S. Remsen MD
Walter L. Scheetz MD
John Shavers MD
Keith T. Sivertson MD
Louise M. Stomierowski MD
Harold Sussman MD
Jean Thorne MD
Jeffrey M. Zale MD

Executive Director

Mr. President and Members of the House of Delegates:

The Faculty experienced a variety of new challenges this year. Through the dedicated teamwork of our physicians and staff, Med Chi tackled each of these challenges successfully. Highlighted below are several of the significant accomplishments of 1988-1989:

Board of Physician Quality Assurance

In August 1988, Governor William Donald Schaefer appointed 12 of the 15 members to the Board of Physician Quality Assurance. Med Chi made recommendations for 10 of these 12 Board members and has worked extensively to facilitate the transition between the Commission on Medical Discipline and the new Board. In September the Faculty petitioned the Board for a Declaratory Ruling on whether the law that provides for suspension and ultimate revocation of a physician's license on conviction of a crime of moral turpitude or a plea of guilty or nolo contendere with respect to a crime of moral turpitude applies to a physician who receives probation before judgment. The Board's decision on this issue is pending.

1989 Legislative Session

The 1989 session of the Maryland General Assembly proved very successful for physicians.

Med Chi was again confronted with the issue of Mandated Medicare Assignment and means testing. Testimony by President Michael R. Dobridge MD and several other physicians, in conjunction with the exceptional efforts of Med Chi's Legislative Committee, helped to sway the House Environmental Matters Committee, which defeated the bill by a 17-6 vote. Increasing public attention to this issue indicates that Maryland physicians must work harder and remain unified in order to successfully address this matter next year.

Med Chi actively supported a bill passed by the House in January that calls for increased participation in the Medicaid program by primary care physicians through the reduction of red tape, establishment of equitable reimbursement, and clarification of eligibility requirements. Following the passage of the bill, Med Chi contacted Presidents of Component Societies and other state societies to encourage participation in the Medical Assistance Program.

Med Chi worked extensively with members of the legislature to reduce restrictions on medical waste for physicians.

The House of Delegates voted to support the controversial statewide Gun Control Referendum passed in November, which bans "Saturday Night Specials" and undetectable handguns.

Liability Insurance

In September the Faculty gave its official endorsement to Medical Mutual Liability Insurance Society of Maryland. Legislated into existence by the Maryland General Assembly in 1975, Medical Mutual was designed to provide liability insurance coverage for Maryland physicians who were left without liability coverage when all other insurers left the state. In November the Governor's office announced that Medical Mutual would provide a 10 percent discount to all its policyholders who renew their policies in 1989. The discount was a result of the cumulative effects of tort reform and insurance legislation enacted by the General Assembly. In addition, Medical Mutual announced in April that it will not seek a rate increase in 1989. This is the third consecutive year that Medical Mutual has maintained its rates.

Medicaid

In September Med Chi surveyed its membership to determine opinions about the Medicaid program, particularly to respond to the pending Medical Assistance "Diversion of Services" program, which attempts to control the increasing costs of Medicaid services by diverting Medicaid beneficiaries from emergency rooms and hospital outpatient departments into private practice settings. Med Chi's Council declined to support the program as initially proposed and has recommended to the Chairmen of the Senate Administrative, Executive, and Legislative Review Committee that all providers of care, irrespective of the setting in which medical care is provided, should be reimbursed at the same level; that the Medicaid program modernize its billing process to facilitate processing of claims within 30 days or less; and that

eligibility rules be more clearly defined to facilitate immediate awareness of patients eligible and not eligible under the program.

To confront the problem of "grey area" patients who do not qualify for medical assistance but cannot afford health insurance, Council approved the concept of a Maryland Physicians Care Program. This statewide service will provide these patients with access to free primary health care from private practice physicians.

Medicare

Med Chi established an Interspecialty Committee composed of representatives from Maryland specialty societies in August 1988. The Committee was formed to obtain specialty society input on the Resource Based Relative Value Scale (RBRVS), a physician payment plan developed by Harvard University that may be used by the government to address the growing problem of Medicare reimbursement. Med Chi supports the AMA's position on RBRVS that states that RBRVS would be an acceptable foundation for a Medicare indemnity payment system if it is sufficiently expanded and refined. The AMA is working in conjunction with the Physician Payment Review Commission which maintains that it holds the primary responsibility for developing a complete RBRVS approach for physician payment under Medicare.

In an effort to address the perceived problems of access to Medicare, Med Chi created PreCare (Physician Referral for Elder Care). The program is a telephone referral network designed to provide Maryland Senior Citizens with names of physicians who accept medicare assignment. PreCare has the potential to provide every senior citizen in Maryland with quality medical care regardless of income, assets, or medical condition.

Med Chi Semiannual Meeting

Maryland Delegates Donna M. Felling and Tony Fulton, along with Med Chi Library Chairman Nancy T. Nichols MD, Med Chi Building Committee Chairman George S. Malouf MD, and Med Chi President Michael R. Dobridge MD cut the ribbon to dedicate the Louis A.M. Krause History of Medicine and Reading Room during the Semiannual Meeting. The dedication marked the completion of the Faculty building renovation project. In conjunction with the dedication, the Faculty's library was designated as the first international clearinghouse for literature and information on the medical problems of performing artists.



Dr. Michael Dobridge commends Elizabeth Linhardt on her outstanding fund raising efforts for the AMA - ERF Program in Maryland.

Med Chi Annual Meeting

"The Caring Physician" was the theme of Med Chi's 191st Annual Meeting at the Turf Valley Hotel and Country Club in Ellicott City on April 12-14, 1989. Former AMA President Edward R. Annis MD and John Lee Clowe MD, Speaker of the House of Delegates for the American Medical Association, discussed the challenges posed by today's health care system during a plenary session. Many thanks are in order to all Med Chi and Auxiliary Members, speakers, and exhibitors who helped make this year's meeting successful.

Peer Review Manual

A *Peer Review Manual* was developed in a joint effort between Med Chi and its Component Societies under the chairmanship of Emidio Bianco MD. The manual, approved by Council in March 1989, will provide guidance and assistance in the conduct and process of physician peer reviews.

Hospital Medical Staffs

This year there was a growing concern regarding the "independent status" of hospital physician staffs. As a result, Med Chi Council approved a Hospital Medical Staff Legal Representation Project whereby Maryland's hospital physicians can seek legal advice regarding hospital bylaws, corporate structures, and business entities. One goal of this project is to develop model hospital bylaws specific to Maryland law. These bylaws would be consistent with the requirements of the Joint Commission on Accreditation of Healthcare Organizations and standardized for use by all Maryland hospitals.

Annapolis Office

In February 1989 Med Chi purchased a building located at 224 Main Street in Annapolis. The building will serve as Med Chi's legislative headquarters and will provide Maryland physicians with a permanent presence in our state capital.

FAX Machine Network

In an effort to increase communication between Med Chi, its membership, and component societies

the Faculty installed a FAX machine network. Fourteen component societies now have the capability to communicate with the Faculty's main and legislative offices via Fax machine. Med Chi has offered special funding to the remaining components for the purchase of FAX machines.

Women in Medicine Committee

In January 1989 a new ad hoc Committee on Women in Medicine was organized to address issues of concern to women physicians such as leadership development for women, day care programs, salary discrimination, and recruitment of women into organized medicine.

Med Sig

In February 1989 Med Chi introduced a new Med Chi Messages section to the already established Med Sig Computer Bulletin Board System. The new service will provide announcements as well as updates on programs and events at Med Chi and around the state. In addition, questions or requests for clarification of any announcement may be entered directly into the system, allowing Med Chi to respond to any issue almost immediately.

It has been both an honor and a privilege to serve the Faculty's membership this year. I sincerely thank the leadership of Med Chi and all its member physicians who have contributed to the culmination of our efforts and who should take pride in their many successes.

Angelo J. Troisi, FACHE, Executive Director

Finance

Mr. President and Members of the House of Delegates:

The Finance Committee met with representatives of the Bowman Financial Management Company, Inc. to review the Faculty investment portfolios of the Consolidated Funds, Steiner Fund, Beck Fund, Funded Reserve, and the Pension Plan Funds.

The strength of the economy in 1988 proved to be a pleasant surprise to almost everyone, especially those who feared a recession after the October 1987 stock market diaster. The GNP grew at a 3 percent rate and inflation was held to slightly over 4 percent.

The outlook for 1989 is positive. Some modest rise in interest rates could offer attractive yields and opportunities to lock in inestments returns at low risk.

The market value of the pension plan portfolio at year end was $1,418,072, which reflects a total return since the inception of 31.2 percent.The Consolidated Fund market value was $1,457,683, and the Steiner Fund market value was $882,716.

Jose M. Yosuico MD, Chairperson

William J. Banfield MD
Gerald A. Glowacki MD
Authur T. Keefe, Jr. MD
Francis C. Mayle, Jr. MD

Hospital Medical Staffs

Mr. President and Members of the House of Delegates:

The Committee on Hospital Medical Staffs continued its active meeting schedule during the past year to address issues involving hospital medical staffs and their relationship with hospital administration and with hospital governance bodies.

Policy initiatives developed by the Committee and authorized by the Council have been implemented. Med Chi's centralized legal service to advise subscribing medical staffs on legal matters of concern is now operational, and services have been provided to five subscribing medical staffs at this time. The legal service is based on the fact that organized hospital medical staffs are independent entities, and as such, they should retain independent counsel.

Additionally, model hospital bylaws specific to Maryland law have been developed and the substance therein is available to subscribing hospital medical staffs through the Med Chi Legal Service.

In the area of quality assurance, the Committee on Hospital Medical Staff has been designated by Council as a medical review committee and is available to provide consultative expertise in this area. This is in keeping with the relationships established during the past year with the State Division of Licensing and Certification wherein the Committee on Hosptial Medical Staffs functions as a consultative resource to the hospital licensing authority.

Other activities included strengthening organizational ties with the AMA Hospital Medical Staff Section so as increase participation by Maryland hospital medical staff representatives at the AMA level.

As Chairman, I wish to extend my sincere appreciation to the members of the Committee for their valuable contribution to the profession.

Victor R. Hrehorovich MD, Chairperson

Ruben Ballsteros MD
Robert Dawson MD
Roy Dawson MD
Benjamin DelCarmen MD
Thomas DeMarco MD
Thomas Ditto MD
Vincent Fitzpatrick MD
Mark Frydenborg MD
George George MD
Norton Gettes MD
Deusdedit Jolbitado MD
Alfred Nelson MD
Andrew Nowakowski MD
Jose Ortiz MD
Stephen Padussis MD
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Walker Robinson MD
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Guillermo Sanchez MD
Ronald Sher MD
Paul Stagg MD
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Legislative

Mr. President and Members of the House of Delegates:

The 1989 Maryland General Assembly was another productive legislative session for the physicians of Maryland. With the guidance and support of Governor William Donald Schaefer, Speaker of the House R. Clayton Mitchell, Jr., and President of the Senate, Thomas V. Mike Miller, Jr., many needed changes in the present law were effected. Other measures designed to erode the quality of health care in Maryland were defeated.

The physicians of Maryland were well represented through the Co-Chairs of the Legislative Committee, Israel Weiner MD, J. Leonard Lichtenfeld MD, Nelson Goodman MD, and Susan Guarnieri MD.

The following account of major issues considered by the Legislative Committee of the Medical and Chirurgical Faculty covers only legislation tracked by the Government Relations Office of significant statewide interest.

The Government Relations Office is staffed to answer and address concerns of physicians through legislative action. Contact Gerard E. Evans, Esq., General Counsel, 224 Main St., Annapolis, MD 21401 if you have any concerns or questions about how the office may assist you.

The Faculty thanks F. Carvel Payne, Director, State Department of Legislative Reference for graciously providing most of the following information.

The 1989 Session of the Maryland General Assembly had several surprises, not in terms of legislation introduced or amended but in the way that several physician groups addressed major bills. Although the Medical and Chirurgical Faculty is widely recognized as *the* institution that speaks for Maryland physicians, it becomes increasingly difficult to present a united front when other medical groups hold positions different from the state Medical Society and, in fact, oppose the Faculty's legislative agenda. Most Legislators, like the public at large, become confused when confronted with diverse and opposing views concerning the practice of medicine. At the national level, some physician's groups are acting independently of organized medicine. Unfortunately, we now see this happening in Maryland. Fortunately, the Faculty has a proud tradition in Annapolis working with Legislators. Consequently, the Faculty's opinion carries significant authority.

The first order of business for the 1989 Maryland General Assembly was the override of the Governor's veto of HB 619. This override ended a valiant perennial effort on the part of Med Chi and the Maryland Society of Eye Physicians and Surgeons. The Faculty remains convinced that the optometrists will not stop with the use of topical ocular agents but will continue to attempt to expand their scope of practice through legislation rather than education.

The Faculty enjoys success in Annapolis largely due to the effort of individual physicians. Countless physicians took time from their practices and families to promote Med Chi's lobbying effort during the 1989 Session. Unlike many other organizations, Med Chi members as individual practitioners have relationships with members of the Maryland General Assembly. These relationships, founded on trust, give physicians invaluable access to Legislators, who respond not to some faceless organization but to the needs of a highly regarded association comprised of dedicated medical practitioners. If the Faculty is to enjoy continued success in Annapolis, these physician key contacts must be further developed and expanded.

Mandated Medicare Assignment

For the third consecutive year Delegate Paul Pinsky *et al.*, introduced legislation proposing Mandated Medicare Assignment in Maryland. As introduced, HB 395 had six co-sponsors, although shortly after it was printed, Delegate John Jefferies withdrew his sponsorship, thanks to the good work of Senator Larry Young from Baltimore City.

Prior to the 1989 Session groups such as the National Association of Retired Persons, the American Association of Retired Persons, the Senior Action Council, and the Citizen Action Coalition embarked on an intensive lobbying effort making Mandated Medicare Assignment their highest priority. Seniors met with individual Legislators, developed a petition and letter-writing campaign while encouraging other groups to join their cause. Other groups, particularly some labor organizations did lend their name and support in pushing mandated assignment.

Although strict Mandated Medicare Assignment was easily defeated during the 1988 Maryland General Assembly in the House Environmental Matters Committee by a vote of 19 to 4, there seems to be a growing tide of support for a Mandated Medicare Assignment law with a means test. In previous years, sentiment for a means test on the Environmental Matters Committee has been strong and was expressed by many of the Delegates during the interim. When the 1989 Session began, several Delegates on the Committee drafted amendments to Delegate Pinsky's bill that would have established a means test. Many Legislators could not understand the Faculty's opposition to a means test especially if it were drawn at a very low-income level. Their statements included "If you are doing it already, why would you object to it in statute?" The answer is found in the question itself. We argued there is no need for a means test if it is being utilized, albeit informally. We cited the Faculty's Pre-Care program that guarantees every senior in Maryland a physician who would accept assignment as payment in full. This program has been met by public officials with enthusiasm and support. This telephone referral service has not been deluged with calls because it has been repeatedly proved that physicians are sensitive to the financial

plight of seniors in need. It was apparent that given the extremely high percentage of claims accepted regularly on an assigned basis there is no real need in the senior community.

Talk of means-tested Mandated Medicare Assignment circulated throughout the physician community as well. On November 19, 1988 a special meeting of the Faculty House of Delegates was held to debate and vote on the issue of Mandated Medicare Assignment. In a unanimous show of strength and unification, the Faculty voted to oppose *any* Mandated Assignment, means tested or not.

As the hearing in Annapolis approached, the Faculty's lobbying effort intensified. The component and specialty medical societies responded with an effective telephone and letter-writing campaign. House Committee members were swamped with phone calls and letters from individual physicians. Likewise, the seniors and their associated comrades intensified their efforts by bringing busloads of seniors from targeted legislative districts to meet with House Committee members.

The Faculty has always argued that because Medicare is a federal program it should be addressed through the United States Congress. State-by-state piecemeal adjustments would only create a patchwork of rules and regulations, not a consistent program. This argument was used convincingly in Annapolis. The Committee was informed about the Resource Based Relative Value Scale and its potential impact on the method and amount of physician payment. The fact that the Physician Payment Review Commission (PPRC) would be studying this subject convinced some Committee members they should wait to see what the federal investigations brought forth.

In a similar vein, the Governor had established a Commission on Health Care Policy and Financing, Chaired by Eugene Feinblatt, Esquire, to examine health care and delivery in the broadest possible terms. Delegate John Arnick, House Majority Leader and Chairman of the House Environmental Matters Committee found the issue of Mandated Medicare Assignment to be one perfectly suited for the Feinblatt Commission to examine. On January 25, 1989 Delegate Arnick asked the Feinblatt Commission to study the issue of Mandated Medicare Assignment. The response from the Feinblatt Commission indicating their willingness and desire to examine the issue of Mandated Medicare Assignment was received and distributed just prior to the legislative hearing. This issue was used by the Faculty in attempting to defer action on assignment during the 1989 General Assembly.

However, one week prior to the hearing our effort was dealt a damaging blow. Staff members from the American College of Physicians (ACP) informed the Faculty that they intended to testify in favor of HB 395. The Faculty was shocked and dismayed. The ACP had offered testimony before the PPRC indicating a willingness to accept Mandated Medicare Assignment with a means test. The College was preparing to offer similar testimony before the Maryland General Assembly on HB 395. None of the local physicians active in the ACP knew anything about this testimony. The Faculty was able to blunt the effect of this information by pointing out that the testimony of ACP was taken out of context and did not directly pertain to HB 395. Mandated Medicare Assignment was defeated for the third year in a row due in large part to the incredible individual effort on the part of Med Chi members. Not only do those physicians who testified on the bill deserve special praise, but also those countless other practitioners who contacted their legislators to make sure the voice of medicine was heard loud and clear in Annapolis.

Public Health

Acquired immune deficiency syndrome (AIDS) and the Medical Assistance Program were each the subjects of omnibus legislation this year. The bills introduced in those areas were the products of extensive study and debate during the 1988 Interim. The Faculty expressed its views on these subjects to various groups examining the topics.

AIDS

Nationally, 82,406 cases of AIDS and 46,134 deaths were recorded as of December 1988. There has been a sharp increase in the number of cases reported. Although some of this increase is due to more comprehensive reporting criteria, the data clearly indicate the AIDS epidemic is continuing to grow.

Concern over the many policy issues associated with AIDS prompted Governor Schaefer in 1987 to appoint the Advisory Council on AIDS, comprised of physicians and other health care providers, representatives of the Departments of Health and Mental Hygiene, Human Services, and Public Safety and Corrections, and members of the community. This year, the Advisory Council had omnibus legislation introduced addressing several diverse policy areas. In addition to omnibus bills filed in both the House and the Senate, 22 other bills on the subject of AIDS were introduced.

Senate Bill 719/House Bill 1346 (both passed), the omnibus bills have several major provisions. First, the bills prohibit all health professionals from withholding, refusing, denying, or discriminating against an individual who has tested positive for the presence of the human immunodeficiency virus (HIV) infection. Second, the legislation requires a health care provider to obtain the informed consent of an individual prior to testing for the HIV infection and requires the Department of Health and Mental Hygiene to develop a uniform written informed consent form to be used for this purpose. (Legal doctrines already required physicians to obtain informed consent before drawing the test. This language merely codified the practice.) Third, the legislation allows a physician to inform the local health officer of an individual's HIV positive status, if that individual refuses to notify his or her sexual and/or needle-sharing partners. A physician

who discloses or chooses not to disclose an individual's HIV positive status to a partner is provided immunity from actions related to a breach of patient confidentiality. This immunity also is extended to a hospital or any other health care provider who performs or interprets a test for the presence of HIV pursuant to a physician's order. The Faculty fought hard for this immunity provision in the hopes it would ease the burden on the practitioner in these cases.

Fourth, Senate Bill 719/House Bill 1346 add correctional officers to the list of first responders who must be notified by medical facilities if the correctional officer comes into contact with an inmate subsequently diagnosed as having HIV or any other contagious disease or virus. The chief medical officer or his designee also are required to provide first responders with notification of their possible exposure.

Fifth, Senate Bill 719/House Bill 1346 provide that when a correctional employee has been exposed to the bodily fluids of an inmate as a result of a violation of institutional regulations, the correctional employee may request that the inmate be required to furnish a blood sample to be tested for HIV. The correctional employee is to be notified of the results of the test and the availability of counseling, if necessary. Sixth, the legislation makes it a misdemeanor for an individual to knowingly transfer or attempt to transfer HIV to another individual. Finally, the bills require the Secretary of Health and Mental Hygiene to establish and conduct an educational program on acquired immune deficiency syndrome (AIDS) for those individuals convicted of certain sexual or drug offenses who are required by a court to complete the program.

Similar concepts contained in other bills - Senate Bill 21, Senate Bill 177, House Bill 114, Senate Bill 51, House Bill 760, and Senate Bill 286 - did not pass, but were incorporated in the amended version of the omnibus bills.

In addition to the omnibus AIDS bills, House Bill 641 (passed) removes the prohibition on the sale of contraceptives or contraceptive devices through vending machines or other automatic devices in locations other than where alcoholic beverages are sold, in order to control the spread of AIDS and other contagious diseases or viruses. The bill retains the prohibition on selling contraceptives or contraceptive devices in schools and specifies that only latex condoms may be sold in vending machines.

The Legislature considered, but did not pass, Senate Bill 331 and House Bill 32 (both failed), which would have required notification to morticians or notification on a death certificate if the deceased was diagnosed as having AIDS, AIDS-Related Complex (ARC), or HIV. House Bill 1461 (failed) that would have required morticians to use universal precautions also failed. Three bills (Senate Bill 19, House Bill 300, and House Bill 796) (all failed) would have required mandatory testing for sex offenders, and Senate Bill 20 (failed) would have required testing for persons committing certain crimes where an exposure had occurred. Another related bill, House Bill 1161 (failed), would have required all inmates to be tested for the presence of HIV. House Bill 543 (failed) would have mandated reporting to the Department of Health and Mental Hygiene the names of persons testing positive for HIV.

Two bills aimed at the insurance industry and AIDS testing were referred to Interim study. House Bill 1273 (failed) would have allowed a health maintenance organization (HMO) to test applicants or subscribers for HIV or a medical condition related to HIV, if the test is given to all such individuals or the decision to test is based on an individual's medical history. Further, the bill would have prohibited a HMO from refusing to renew coverage or from limiting coverage due to an individual's positive HIV test result. House Bill 1275 (failed) would have permitted a life or health insurer to test an applicant or an insured for HIV (or a medical condition related to HIV) if the test was given to all individuals in the same risk class with the same coverage or the test was based on medical history or condition. However, House Bill 1275 would have prohibited an insurer from canceling, excluding, restricting, or limiting benefits due to a positive HIV test result or a related condition.

Medical Assistance Program

Medicaid is a $1.12 billion federal and state funded program providing medical care to 342,000 indigent and medically indigent persons in Maryland. State expenditures for medical assistance have more than doubled over the past eight years, while the average monthly enrollment declined slightly.

The Special Joint Legislative Committee on Medical Assistance was appointed during the 1988 Interim in response to conflicting pressures during the 1988 Legislative Session to enhance program benefits and eligibility and to cut costs. The Committee, as directed, undertook a comprehensive review of the Medical Assistance Program and made extensive recommendations. The omnibus legislation, Senate Bill 794/House Bill 1052 (both passed), introduced as a result of the



Med Chi Past-President Dr. Roland Smoot enjoying conversation at the Presidential banquet.

final report of the Committee, set the overall direction and tone for the Program's future development.

The Faculty testified many times before the Joint Committee and had some influence in the drafting of the final legislation. In searching for a solution to low participation by physician providers, many legislators saw the answer as requiring physicians to take a certain percentage of Medicaid patients as a condition of hospital privileges. The Faculty was successful in defeating this notion. Finally, the Committee agreed that some of the major impediments to physician participation are poor reimbursement and nonsensical red tape. This legislation does not solve all the Program's problems but is a step in the right direction.

Specifically, Senate Bill 794/House Bill 1052:

1. Set in statute policy goals for the entire Medicaid program;
2. Expanded eligibility for comprehensive medical care to pregnant women and their children up to a year old whose family income is under 185 percent of the poverty level, and to children up through two years old whose income is below 100 percent of poverty;
3. Increased reimbursement levels for certain physician procedures, particularly primary care;
4. Required that the program include managed care pilot programs;
5. Permitted the Secretary of the Department of Health and Mental Hygiene (DHMH) to continue a contract with a provider without going through a formal renewal process;
6. Placed a moratorium on Letters of Intent and Certificate of Need applications for nursing home beds until July 1, 1990, and
7. Mandated the continuation of the Special Joint Committee on the Medical Assistance Program until 1992.

Another bill affecting the Medical Assistance Program, House Bill 836 (passed), requires DHMH to adopt regulations and procedures to review every three years the prices of durable medical equipment supplied to medical assistance recipients.

House Bill 815 (passed) revises the income limits for participation in the Pharmacy Assistance Program, a state-funded program distinct from Medical Assistance. The bill also states that providers may not be reimbursed for more than the rate assigned for a generic equivalent for any drug, unless the physician indicates the drug is medically necessary. Additionally, House Bill 815 authorizes the Department of Health and Mental Hygiene to require potential recipients to apply for eligibility for Medical Assistance within 60 days of notification by the Department to do so.

Civil Actions and Procedures

Immunity from Liability The General Assembly granted limited immunity from civil liability to various individuals and organizations.

Two bills expanded the category of associations and organizations covered under provisions of existing law that provide immunity from personal liability for agents providing services or performing duties on behalf of the association or organization and limit the liability of the association or organization itself, if the association or organization maintains insurance coverage that satisfies certain specified criteria.

House Bill 66 (passed) extends provisions of existing law granting immunity from liability to certain volunteers of charitable organizations currently exempt from taxation under S 501(c)(3) of the Internal Revenue Code to include volunteers of corporations that are subject to S 501(c)(4) of the IRS Code (civic leagues), S 501(c)(5) of the IRS Code (labor, agricultural, or horticulture organizations), and S 501(c)(6) of the IRS Code (business leagues, chambers of commerce, real estate boards, boards of trade, and professional football leagues not organized for profit).

Limitation on Noneconomic Damages Senate Bill 899 (passed) clarifies a procedural issue relating to the $350,000 cap on noneconomic damages that applies under current law to any personal injury action in which the cause of action arose on or after July 1, 1986.

The bill prohibits a jury from being informed of the cap and requires a court to reduce a jury award to conform to the cap, if the jury awards an amount that exceeds it.

The bill was introduced in response to the decision in *Franklin v. Mazda Motor Corporation, Slip. op.* dated February 2, 1989, Civil Action No. PN-87-2203, in which the United States District Court for the District of Maryland held that existing law should be interpreted so as to require that the jury be instructed by the court not to return a verdict for noneconomic damages in excess of $350,000.

Health Claims Arbitration

House Bill 776 (passed) modifies the certification requirements under the Health Care Malpractice Claims Act for any claim filed with the Health Claims Arbitration Office on or after July 1, 1989. Under the bill, a party may not serve as a party's expert on a certificate of merit and the certificate may not be signed by a party, an employee or partner of a party, or an employee or stockholder of any professional corporation of which the party is a stockholder.

The bill also creates an exception to the requirement that a claim filed with the Health Claims Arbitration Office be dismissed if the claimant fails to file, within 90 days from the date of the complaint, a certificate of a qualified expert attesting to departure form standards of care and that the departure proximately caused the alleged injury. Under this bill, in lieu of dismissing the claim, the panel chairman is required to grant an extension of not more than 90 days for filing the certificate, if the statute of limitations has expired and the failure to file the certificate was neither willful nor the result of gross negligence.

Finally, the bill authorizes, rather than requires, a

claim to be adjudicated in favor of the claimant on the liability issue if the defendant disputes liability and fails to file within 120 days from service of the certificate of a qualified expert on the defendant, a certificate of a qualified expert attesting to compliance with standards of care or that the departure was not the proximate cause of the injury. The provisions of this bill are to be applied prospectively only.

Personal Injury Protection

Senate Bill 170/House Bill 335 (both passed) allow a purchaser of an automobile insurance policy to waive coverage for personal injury protection (PIP) benefits for all named insureds and listed drivers over 16 years of age covered by the policy. Current law mandates PIP coverage and requires an insured to carry a minimum of $2,500 of benefits payable for medical expenses and lost wages resulting from an automobile accident, regardless of fault. Under Senate Bill 170/House Bill 335 drivers still have to carry PIP coverage for pedestrians, passengers who are not named insureds, and family members under 16. If a driver waives coverage, the waiver applies to all PIP benefits provided under the first-named insured's policy or any other private passenger motor vehicle liability policy or coverage in the state. Cost savings for a driver who waives PIP coverage will vary from $15 to $250 a year, depending primarily on the area of the state in which the driver resides.

Health and Life Insurance

Mandated Benefits The Governor's Commission on Health Care Policy and Financing formed a Committee on Mandated Benefits to investigate the social and economic impact of mandated benefits and to develop a coherent policy on mandated benefits. At the Committee's request, the General Assembly did not enact any additional mandated benefits. The General Assembly maintained the status quo on existing mandates with the passage of Senate Bill 78 (passed) which extends the sunset on the mandate for mental illness until June 30, 1991.

Long Term Care House Bill 694 (passed) establishes the Long-Term Care Insurance Act. The Act stipulates that insurers may not cancel, refuse to renew, or otherwise terminate a long-term care policy because of age or deterioration of the mental or physical health of an insured. It prohibits the exclusion of certain provisions in long-term care policies, and prohibits limiting coverage to skilled nursing care, conditioning eligibility for benefits at one level of care on the receipt of higher levels of care, or requiring prior institutionalization. The Act requires that long-term care insurance provide coverage for senile dementia disorders, including Alzheimer's disease.

Medicare Supplemental Policies The Medicare Coverage Act passed by the U.S. Congress expanded the health benefits available through the medicare program and has required a modification in the benefits offered through medicare supplemental policies to conform with the changes in the medicare program. House Bill 1521 (passed) amends Maryland's Medicare Supplement and Specified Disease Act to specify that if a medicare supplemental policy duplicates benefits now provided through medicare, these benefits must be increased or the premiums reduced. In addition, the bill enhances consumer protection provisions under the Act by requiring insurers to outline, to all applicants, the coverage provided in a medicare supplemental policy and by requiring insurers to submit an advance copy of all advertisements on policies to the Insurance Commissioner.

AIDS Testing The outbreak of AIDS has raised the question as to when an insurer or health maintenance organization may require an AIDS test prior to underwriting individual risks and the procedures that must be followed for such testing. House Bill 1375 (failed) and House Bill 1273 (failed) would have established procedures and standards for AIDS testing and underwriting.

Prescription Drug Reimbursement Senate Bill 730/House Bill 338 (both passed) prohibit individual or group policies that provide benefits for pharmaceutical products from imposing a copayment, deductible, or other condition on an insured who uses the services of a community pharmacy, if those conditions are not imposed when an insured utilizes the services of a mail-order pharmacy.

House Bill 1064 (passed) requires insurers to reimburse insureds for pharmaceutical products in the same amount for all authorized prescribers. The bill also prohibits the coordination of health insurance benefits with intensive care benefits.

Health Maintenance Organization The General Assembly enacted two bills expanding the regulatory authority of the Insurance Commissioner over health maintenance organizations and preferred provider organizations. Senate Bill 758/House Bill 1405 (both passed) require HMOs to submit an insolvency plan to the Insurance Commissioner by January 1, 1990. The bills stipulate the actions the Insurance Commissioner may take as a rehabilitator or liquidator (subject to court approval) in the event of an insolvency of an HMO. They also provide that an enrollee or subscriber of an HMO is not liable to a provider for services rendered.

Mental Health

Senate Bill 156 (Ch. 31) removes the prohibition on the transportation of a person to or from a facility for the mentally ill by someone of the opposite sex and permits the Chief Executive Officer of the facility to allow transportation by a person of either sex, if appropriate.

Senate Bill 56/House Bill 50 (both passed) also pertain to the legal rights of the mentally ill. The bills prohibit a cause of action and disciplinary action against a mental health care provider or the administrator of a facility for failing to predict, warn of,

or take precautions against a patient's violent behavior, unless the provider knew of the patient's propensity for violence, and the patient indicated to the provider or administrator an intention to inflict imminent physical injury upon a specified victim or group of victims.

The Faculty worked very closely with the psychiatric community in defeating SB 638, which would have required hospitals to grant admitting privileges to licensed psychologists. This was killed on the last day of the Session in a Conference Committee action.

Health Occupations

Fees In recent years, concern has been expressed that, of all the health occupation boards, only a small number generate sufficient revenue from their licensing fees to cover the various costs of regulating their profession. In addition, the excess revenue generated by several boards is used to indirectly subsidize those boards that are not self-supporting. Senate Bill 264 (passed) authorizes each health occupation board to set reasonable fees for the issuance and renewal of licenses and other services provided by the board. The bill also requires the Secretary of Health and Mental Hygiene and representatives of the health occupation boards to assess and report to the General Assembly on the administrative, fiscal, and budgetary impact on each board resulting from the setting of licensing fees by each board and on the indirect costs of administering each board. This information will be helpful in studying the overall financing of the boards.

Dispensing of Prescription Drugs Pursuant to legislation that passed the Maryland General Assembly three years ago, the Board of Physician Quality Assurance was directed to create, through regulation, guidelines concerning the dispensing of pharmaceuticals in physicians offices. The Maryland Pharmacists Association obtained draft regulations from the Physician Quality Assurance Board , and because the Pharmacists grew impatient with the progress of the Board they decided to have legislation introduced. However, the legislation introduced was no more intrusive or dangerous than the draft regulations promulgated by the Board itself.



Dr. David Nagel, Dr. Christopher Harvey, and Dr. Harold Bob pose together before the Presidential banquet.

Consequently, legislation was passed affecting the dispensing of prescription drugs by physicians, dentists, and podiatrists. Senate Bill 732/House Bill 1299 (both passed)change the conditions under which these health practitioners may dispense drugs by requiring each practitioner to obtain a written permit from his or her regulatory board in order to dispense. A permit is not required, however, to dispense starter dosages or free samples. Additionally, the bills specify that the practitioner may dispense drugs to a patient only if a pharmacy is not convenient to the patient and the practitioner is physically present on the premises where the prescription is filled and performs a final check of the prescription before it is provided to the patient.

Physicians

Legislation was approved providing additional immunity protection for actions brought against medical review bodies and physicians participating in professional peer review activities. Senate Bill 109 (Ch. 17) (passed) reflects the decision of the state to opt out of the federal Health Care Quality Improvement Act of 1986 and instead to be governed by the Maryland Medical Practice Act. The Maryland Act provides greater immunity protection for actions brought under State law.

Although legislation was enacted in 1987 that required certification of medical and nuclear radiation technologists, the new Board of Physician Quality Assurance has not yet adopted the regulations. Accordingly, House Bill 1489 (passed) extends the date for certification of medical and nuclear radiation technologists from July 1, 1989 to February 1, 1990. The bill also authorizes the Board of Physician Quality Assurance to issue a certificate of temporary authority to an individual employed as a medical radiation technologist or a nuclear medical technologist as of August 1, 1988.

Nurses

A package of bills was introduced in response to the recommendations of the Governor's Task Force to Study the Crisis in Nursing. These bills seek to increase the number of nurses practicing in this State, since manpower shortages currently exist. Senate Bill 703 (passed) allows a registered nurse who graduated prior to September 9, 1979 from a Diploma Nursing Program or an Associate Degree Nursing Program to validate prior education, before entering a baccalaureate nursing program, by successfully completing three transition courses. Senate Bill 704 (passed) directs the Maryland Higher Education Commission to establish a Task Force to investigate and implement changes in the nursing education curricula of community colleges in order to promote access to nursing education and to enhance career mobility. Senate Bill

705 (passed) directs the University of Maryland School of Nursing Task Force to investigate the feasibility of implementing a cooperative nursing degree program at the School of Nursing.

Senate Bill 706 (passed) extends eligibility for general State scholarships to include part-time nursing students. The bill also grants priority participation in the Loan Assistance Repayment Program to certain nursing students. In addition, each recipient of a nursing scholarship may be entitled to a grant to meet certain living costs.

Senate Bill 707/House Bill 1362 (both passed) establish a Health Manpower Shortage Training Grant Program to be administered by the State Scholarship Administration. Under the bills, an eligible school must use each grant to enhance or expand approved education program leading to licensure or certification in a health occupation determined to be in short supply.

Senate Bill 744/House Bill 1274 (both passed) authorize the State Board of Nursing to place a licensee on inactive status. The bills are aimed at preventing the disenfranchisement of nurses who do not fulfill the current active practice requirements but who wish to retain their title under an inactive status registration certificate.

Hospitals

House Bill 471 (passed) prohibits smoking in acute care hospitals outside of designated smoking areas, unless a physician has specifically authorized a patient to smoke. Facilities treating mental disorders and those where the average length of stay exceeds 30 days are excluded from the provisions of the bill.

Senate Bill 534 (passed) repeals the requirement that a hospital administrator, as part of an admission procedure, ascertain whether a person is an organ or tissue donor. Administrators are still required, however, to make donation requests upon the death of an appropriate donor.

Senate Bill 638 (failed) would have required hospitals and nursing homes to provide in their bylaws, rules, or regulations for the use of their facilities by, and staff privileges for, qualified psychologists.

Alternative Health Systems

While House Bill 1479 (passed) (which includes health maintenance organizations, preferred provider organizations, and independent practice organizations in the disciplinary reporting network currently in place for hospitals and nursing homes) is one of several bills introduced to safeguard the solvency of health maintenance organizations (HMOs) and to protect consumers who contract with HMOs. House Bill 59 (passed) requires an HMO licensed on or after July 1, 1989 to have an initial surplus exceeding its liabilities by at least $1.5 million. The surplus requirements for an existing HMO are increased over the next two years, so that by July 1, 1991, the surplus is required to be the greater of $750,000 or 5 percent of subscription charges, with the maximum surplus required capped at $3 million. Senate Bill 758/House Bill 1405 (both passed) provide the Insurance Commissioner with additional authority as a rehabilitator, in the even an HMO becomes insolvent, and require each HMO by January 1, 1990 to develop an insolvency plan.

Medical Laboratories

The background concerning SB 297 began last year as Senate Bill 659, introduced by Senator Leo Green from Prince George's County. SB 659 was defeated and the Senate Finance Committee directed the Department of Health and Mental Hygiene (DHMH) to do a study on physician-operated labs in association with the Faculty. Unfortunately, there was never any cooperation from the DHMH, but rather they conducted a survey and published the results three weeks prior to the opening of the 1989 Legislative Session. Their claims included poor training of medical technologists, faulty equipment, and general lack of proficiency on the part of physicians in their lab practices. We disputed the findings vigorously and publicly.

The legislation as introduced was unacceptable to the Faculty and we testified accordingly. However, several physician groups testified in favor of the legislation including the American Academy of Pathology and the American Society of Clinical Pathologists. This situation posed an extremely difficult lobbying endeavor. Anytime physician groups are pitted against one another, the chances of achieving full success are diminished.

Members of the Senate Finance Committee and members of the Department approached the Faculty in hopes of negotiating a compromise. The Executive Committee of Med Chi felt this issue important enough to call a special Council meeting and discuss the options. The Council discussion took place against the following backdrop. In December 1988 Congress passed legislation that by 1991 will regulate *all* physician-operated laboratories. Therefore the issue quickly focused not on whether physicians would be regulated in their labs but rather when and how the regulation would occur. The federal legislation indicated that if state regulation were in place and effective the feds may opt out and allow the state sole regulatory authority. Council voted unanimously to support a modified version of Senate Bill 297. The Council's amendments specifically required the DHMH to publish a list of those tests which would be exempted from any regulation and further required the DHMH to create a liaison committee on laboratory review comprised of physicians appointed by the Faculty.

Senate Bill 297 (passed) requires the Secretary of Health and Mental Hygiene to exempt a physician or group of physicians from the need to hold a permit to operate a medical laboratory if the physician or group of physicians: (1) Performs or personally supervises the test procedure and the procedure is only for the physician's patients; and (2) The physician performs

only those limited laboratory examinations specified in the bill. However, exempted physician laboratories must participate in a proficiency testing program.

Infectious Waste

In response to medical waste washing ashore from illegal disposal practices, the Departments of the Environment and of Health and Mental Hygiene adopted emergency special medical waste regulations in the fall of 1988 enumerating the required handling, treatment, and disposal procedures for special medical waste and establishing a system to track its disposal. During the 1989 Session several bills were considered to further strengthen the state's efforts to control disposal.

Senate Bill 403/House Bill 536 (both passed) make the penalties for the improper disposal of infectious waste consistent with the penalties for the improper disposal of hazardous waste. The penalty is increased from $500 to $100,000 per day per occurrence or five years in jail, or both. Additionally, Senate Bill 404/House Bill 536 expand the coverage of the infectious waste laws to include all health care facilities. Two bills, House Bill 301 and House Bill 469 (both failed), would have subjected a person found guilty of improperly disposing of medical waste to a penalty of $1 million or ten years imprisonment or both.

Smoking

The General Assembly considered various smoking bills ranging from smoking bans in hospitals and enclosed public places to discrimination against smokers. House Bill 471 (passed) prohibits smoking in hospitals unless the attending physician authorizes the patient to smoke. House Bill 164 (failed) would have prohibited smoking in all enclosed public places, except in designated smoking areas. Senate Bill 729/House Bill 1239 (failed) would have made it illegal for an employer to refuse to hire or to fire a person for being a smoker or a nonsmoker or to require an individual to abstain from smoking outside the course of employment.

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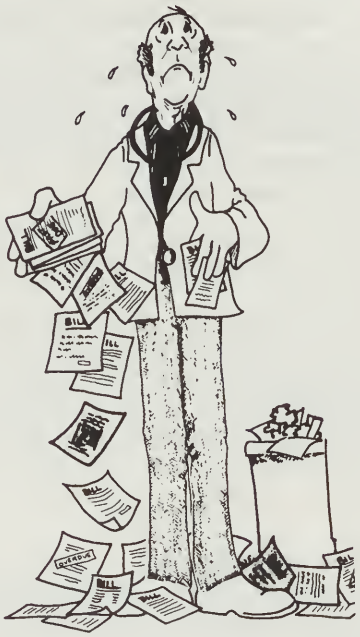
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Liaison with the Department of Health and Mental Hygiene

Mr. President and Members of the House of Delegates:

The major acivity of the Commitee focused on the proposal by the Department to divert Medical Assistance patients from hospital emergency departments and outpatient clinics. The original proposal included recommendations to:

- eliminate Medicaid payments to hospitals for emergency room services provided to nonemergency patients;
- require hospitals to "divert" nonemergency Medicaid recipients from hospital ER to nonhospital, community based primary care providers;
- Medicaid patient access to hospital outpatient clinics only on referral from a primary care provider; and
- require hospitals to "divert" any Medicaid recipient who comes to an outpatient clinic without a referral.

Med Chi has recognized the problem of primary care services provided in high cost hospital departments. As early as 1975, Med Chi was involved in the Carroll County Study to determine the effects of increased physician fees upon the utilization of services to Medical Assistance patients referred from the emergency department. The Committee has been actively involved in the proposed Medicaid Diversion Project via negotiation with the Secretary and Deputy Secretary of the Department of Health and Mental Hygiene and in close coordination with specialty societies representing physicians who would be adversely affected by the proposed policy. This includes both the Maryland Chapter, American College of Emergency Physicians and the national office of the American College of Emergency Physicians. Additionally, the developing Medicaid proposal has been continuously brought to the attention of the Med Chi Executive Committee and Council, and Michael R. Dobridge MD, President, wrote to all component and specialty societies on July 29, 1988; August 5, 1988; September 2, 1988; January 9, 1989; January 31, 1989 and February 3, 1989 to apprise them of developing issues.



Dr. Israel Weiner speaks on the first six months of The Board of Physician Quality Assurance.

On a proactive basis, Med Chi conducted a survey in September 1988 to measure physician involvement in Medicaid and to obtain opinion as to the effectiveness and administration of the Medical Assistance Program. The majority of respondents indicated that they participate in Medicaid all the time or on a case-by-case basis. The availability and analysis of this information will be helpful in planning activities with the DHMH, the legislature, and other groups regarding future Medicaid initiatives.

Relative to the Medicaid Diversion proposal, testimony (authorized by Council on January 28, 1989) was presented to the Maryland Health Services Cost Review Commission regarding the proposed rate, including the physician component, for Primary Care Access Centers. It was clearly expressed by Med Chi that the provision of the highest quality of care to all Medical Assistance beneficiaries should not be compromised by financial considerations.

After much negotiation, the Medicaid Diversion proposal remains pending with the Administrative, Executive, and Legislative Review Committee (AELR) of the Maryland legislature.

The past year also saw passage of legislation mandating improvements in the Medical Assistance Program. This includes:

1. Reduction of red tape and reimbursement increases for primary care physicians and for physicians practicing in medically underserved areas;
2. Increase of physician manpower in medically underserved areas; and
3. That Med Chi, local medical societies, and the Board of Physician Quality Assurance encourge physicians currently not providing services to Medical Assistance beneficiaries to do so.

In keeping with these recommendations, Med Chi will work through this Committee and component and specialty societies to preserve quality of care for all Medical Assistance beneficiaries. I extend my sincere appreciation to members of the Committee who have given their valuable time to these important activities.

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Library and History

Mr. President and Members of the House of Delegates:

In 1988, The Library and History Committee, which was reactivated in 1987, reviewed its goals in the light of rapid technological changes in information processing and gathering. Because of these changes, the contents and services of medical libraries are shifting, with emphasis of the electronic retrieval of data. The original purpose of Library as a repository for textbooks and the Index Medicus, from which one could obtain the latest scientific information has altered. Rapid retrieval of the contents of current scientific journals is now the norm. Bibliographies of medical subjects are obtainable within minutes, and printouts of entire articles can be retrieved in about an hour. Providing this technology and updating Faculty members on how to use it is vital to fruitful use of the library by Med Chi members.

As more and more data accumulate and are stored electronically instead of in book form, the historical publications and artifacts now in the possession of the Library increase in both historic and monetary value and the library staff and Committee must continually re-evaluate their rarity and relevance to the collection and arrange for their preservation and appropriate display.

In 1988, the Library Committee met bimonthly. It identified and addressed itself to the following short and long-term goals.

Short-Term Goals

To establish guidelines for the use of the Krause Rare Book Room, dedicated in September 1988. This beautiful room is open daily for study and (by request) examination of the rare medical books and artifacts it contains. In addition, the room can be rented for social events, the income being used for the upkeep of the books and artifacts.

The Committee and the library staff have established rules for social events including time of availability, allowable number of guests, rules for security, rental fees, and parking arrangements. A list of recommended caterers is being completed, and a brochure is being designed to present these facts to Faculty members.

To investigate the status of the Med Chi historical book and artifact collection originally loaned to the Smithsonian Institute. An extensive review of all available correspondence between Med Chi and the Smithsonian between 1970 and 1981 was made. A synopsis of relevant material keyed to the original letters was prepared. The Library Committee, the Librarian, the Director for Support Services, the Executive Director, and the Faculty's attorney reviewed the material, and all agreed that the collection originally on loan had later been altered to an outright grant in perpetuity and is now the property of the Smithsonian Institute. All the artifacts have been catalogued and appraised. They are insured by the Institute, appropriately housed, and are available to Med Chi on loan.

The Committee has surveyed the various funds that might be appropriately used for preservation and restoration of the library's rare books. The Committee will make recommendations to the Council as to how to finance this activity. The question of restoration has many facets. Restored books lose much of their value. Non-restoration, on the other hand, may lead to loss of a book by total deterioration. The Committee is arranging to meet with a curator from the Eisenhower Library of Johns Hopkins University to get advice on this matter before making any recommendations to the Council and Faculty.

In the matter of preservation of books, the Committee surveyed the various methods of preservation in current use and decided that a relatively inexpensive method of deacidification should be tried. The History of Medicine Archivist and a subcommittee of Dr. Abrams, Dr. Fishbein, and Dr. Wilson have selected a group of books that are duplicates or of minor importance be treated in a trial of the method.

Long-Term Goals

To achieve public recognition of special service of the library. The Committee decided to survey current knowledge of the library's facilities among Maryland physicians and Maryland hospital libraries. Dr. Hamilton prepared a questionnaire that was sent to all



Med Chi archivist Bill Sleeman demonstates the Library's on-line computer capabilities.

Maryland hospitals. There was a 36 percent response, and a follow-up questionnaire will complete the polling. A similar questionnaire was drawn up by Dr. Fricke and will be sent to all Maryland physicians. Dr. Albites is contacting medically related societies in Maryland to see if they would be interested in using the library services. This could be a source of income for the library. When the results of these surveys have been analyzed, appropriate brochures will be prepared to stimulate further interest and utilization of the library's facilities by physicians, medical libraries, and societies.

To advise the Faculty on initiating procedures for publications and celebrations appropriate to the 200th anniversary of the Faculty in 1999. The Committee has identified two projects thus far for the 1999 Bicentennial. The Committee, under the guidance of the Council, plans to mount an exhibit of medical instruments, books, and pamphlets tracing the history of instrumentation and methodology in medicine dating back to the eighteenth century using material from the Smithsonian Institute including artifacts from the Smithsonian Institute's Med Chi collection, now the property of the Smithsonian. With Council approval, a subcommittee is to be formed to update either Eugene Cordell's *Medical Annals of Maryland*, written for the Med Chi centennial in 1899 or the 1950 publication, *Celebration of the Sesquicentennial of the Medical and Chirurgical Faculty of the State of Maryland: 1799 - 1949.*

The Committee extends its thanks to Joseph Jensen, Director of Support Services, for his indoctrinization into the history, structure, and functioning of the library and to Adam Szczepaniak, Library Director, for his cooperation and support of the Committee's goals.

Nancy Nichols MD, Chairperson

Samuel Abrams MD
Conrad Acton MD
Victor Albites MD
Joseph Berman MD
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John Buckley MD
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Ronald Fishbein MD
David Fricke MD
Milford Foxwell MD
J. Michael Hamilton MD
Randall McLaughlin MD
Henry Wilson MD

Long-Term Care and Geriatrics

Mr. President and Members of the House of Delegates:

The Committee on Long-Term Care and Geriatrics met five times between September 1988 and May 1989. The Committee has maintained its long-standing commitment to assuring the highest quality of care in long- term care facilities.

The Committee concentrated on Continuing Medical Education by bringing the special problems of the elderly to the attention of physicians and developing educational resources in these areas; and Consumer Information by educating the public about what physicians can offer in the care of the elderly.

In January 1989 the Committee met with representatives from Blue Cross/Blue Shield concerning reimbursement in nursing homes. The Committee is working toward having Medicare reassess the reimbursement rate in Maryland.

In March 1989 the Committee met representatives from Buxbaum-Sacks regarding the new Federal Regulations effective January 1, 1989.

The Committee sponsored a scientific session at the 1989 Annual Meeting of Med Chi, "Thinking Ethically About Nursing Home Transfers," and the response was excellent. In May 1989 the Committee sponsored the Eleventh Annual Meeting of the Medical Directors and Principal Physicians, and over 100 physicians throughout Maryland were invited. Steven Levinson MD, Medical Director, Levindale Hebrew Geriatric Center and Hospital, discussed "Medical Quality Assurance in Nursing Homes."

The Committee looks forward to the coming year and will strive to provide appropriate education to the physicians and the public. The Chairman appreciates the dedication of the Committee members and the Faculty staff.

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Advisory Member
Lois Leonard MD

Managed Care and Third-Party Liaison

Mr. President and Members of the House of Delegates:

The Committee's first initiative this year was to meet with senior executive staff and a member of the Board of Directors of Blue Cross and Blue Shield of Maryland, Inc. Representatives from the Med Chi Executive Committee were also present. Vigorous discussions were held regarding the financial structure of Blue Cross and Blue Shield particularly with respect to financing of managed care programs, sustained losses, experience rating, mandated coverage, and other is-

sues. The concerns of practicing physicians were clearly expressed to this third party carrier. Throughout the year, representatives from the private and Medicare functions of Blue Cross and Blue Shield of Maryland routinely met with the Committee.

The past year saw the expansion of the Committee's charge to involve itself more with health maintenance organizations and other managed systems of health care delivery. At this time, the Committee is working actively with the Maryland Association of HMOs, the Maryland Chapter American College of Emergency Physicians, the Med Chi Committee on Emergency Medical Services, and the Maryland Hospital Association on access of patients enrolled in managed care programs to necessary emergency medical services. The Committee also has worked on behalf of numerous Med Chi members to clarify financial issues following the insolvency of a subcontractor to an HMO in the Baltimore metropolitan area.

In the area of Personal Injury Protection and Workers' Compensation, discussions have been held with the Insurance Commissioner's Office and other authorities regarding the use of private utilization review companies.

Other areas of activity included discussion with third-party payors regarding claims-specific problems brought to our attention by Med Chi members, review of corporate policies, electronic billing systems, and other issues. The Committee works hard to provide a medium for problem resolution, and we are appreciative of the availability of third-party representatives who interact directly with our group.

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Maryland Medical Journal

Mr. President and Members of the House of Delegates:

This report covers the period from August 1988 to August 1989, during which *MMJ* underwent some significant production and design changes while maintaining good financial health and growth. Total page count for Volume 37 (1988) was 1,026; issues averaged 86 pages; and distribution was about 7,150 copies per month. Although national pharmaceutical advertising continued the dramatic slide begun in 1986 (their total page count was down 32 percent in 1988 compared to 1987), our local publisher's representative was able to maintain advertising space in *MMJ* at a 38 percent average across the year. Production costs have remained relatively stable, but postal rates continue to increase.

With the August 1988 issue *MMJ* converted to in-house typesetting and formatting. In combination with this changeover, both the August and September issues were off press within three weeks in August. Issues are now mailed a week prior to the cover date instead of mid-month.

Four dedicated issues were produced this year. The December 1988 *MMJ*, Adolescence Today: Youth in Tough Times, compiled by Catherine DeAngelis MD, Director Division of General Pediatrics and Adolescent Medicine, The Johns Hopkins School of Medicine, and Felix Heald MD, Director of Adolescent Medicine, University of Maryland School of Medicine, included nine articles. The January 1989 Legislative Update issue featured four articles as well as a reprint, "A Primer on Tort Reform." The February issue presented fifteen articles Promoting Health and Preventing Disease in Older Adults coordinated by the Center for Health Education, Inc., in cooperation with the Geriatric and Gerontology Education and Research Program of the University of Maryland at Baltimore and Med Chi's Long-term Care and Geriatric Committee. The May issue, devoted to the Physician-Computer Relationship, included seven articles with pertinent information for clinicians contemplating the use of computers in their professional and personal lives.

The November 1988 issue featured four articles from a *festschrift* honoring the medical career of Dr. Thomas B. Connor at the University of Maryland.

The April issue highlighted Raymond M. Atkins MD, Med Chi's President in 1989-1990 (who took office on April 14). This issue ushered in a completely redesigned, more readable, and visually attractive format.

There have been six Editorial Board meetings in this period. At the September 1, 1988 meeting, Dr. James G. Zimmerly, having served as Editor for 11 years, resigned. On September 24 Council, by an award of a commemorative plaque, expressed its appreciation for Dr. Zimmerly's many years of dedicated service. Council appointed Victor R. Hrehorovich MD as Editor for a three-year term. Dr. Hrehorovich had served as Associate Editor with Dr. Zimmerly. Henry P. Laughlin MD was named Associate Editor.

In 1988 there were 106 manuscripts received; three were withdrawn and two were draft proposals. Of the 101 manuscripts reviewed, 79 were accepted, indicating a 22 percent rejection rate. The Board reviewed and revised its mission statement and objectives for Council action. The Board also submitted proposed changes to the Bylaws Committee regarding appointments of Editorial Board members. A tentative Editorial Calendar through April 1991 and a Proposed Cover Calendar through January 1990 have been created.

Two new departments were initiated: (1) PRO Update, a series of articles provided by the Delmarva Foundation for Medical Care, Inc., attempts to define and clarify federal peer review organization requirements and the review-appeals-denials process and (2) Computer Bytes, questions and answers designed to help physicians best use computers in their professional and personal lives.

MMJ continues to invite comments as well as scientific articles. During the 1988 volume year and through July 1989, eight Commentaries, two Editorials, and seven Letters to the Editor have been published.

The second annual "Best Article" awards were presented at Med Chi's semiannual meeting in September 1988. The best practitioners' article, "Heart Transplantation: The Johns Hopkins Experience," by William A. Baumgartner MD, Sharon Augustine RN, and Stephen C. Achuff MD *et al.*, appeared in the September 1987 issue. The best article by residents, "Rocky Mountain Spotted Fever Manifested by Cerebritis and Pneumonitis," by Pradeep Garg MD and David A. Blass MD was in the April 1987 issue.

In April 1989 *MMJ* received an award from the Successful Magazine Publishers Group: an Honorable Mention for excellence in writing, editing, artwork, and design in the Association and Government Publication category.

As always, those associated with the production of the *Maryland Medical Journal* encourage Med Chi members to communicate regularly and often about any and all facets of the publication. The rationale for any editorial decision will be shared with anyone having an interest in *MMJ*.

The Editorial Board and the Managing Editor thank the many outside reviewers of manuscripts who so graciously donated their time and expertise in this important function over the past year. We also appreciate the careful attention of individual department editors who monitor their columns for scientific accuracy and correct citations.

Victor R. Hrehorovich MD, Editor
Henry P. Laughlin MD, Associate Editor

Richard A. Baum MD
DeWitt E. DeLawter MD
James P.G. Flynn MD, MPH
Elmer Hoffman MD
Louis Kozloff MD
Ann Wintriss, Managing Editor

Med Chi Insurance Fund

Mr. President and Members of the House of Delegates:

During the year 1988, the Insurance Fund Board of Directors met six times and conferred on several telephone conferences.

The Hartford group plan of Disability and Major Medical insurance was enhanced by broadening the definition of "Hospital" in the contract. The plan now includes coverage for treatment in Alcoholic Treatment Facilities, Psychiatric Hospitals, Rehabilitation Hospitals, Hospice Facilities, and Ambulatory Surgical Centers, if they meet certain tests stipulated in the contract.

Blue Cross and Blue Shield plan options were revised. A lower benefit, less costly option was added for those members to decrease their expense of Health Insurance.

The largest accomplishment during the year became evident after the end of the year. Med-Mutual changed the renewal dates of all the policies to be effective January 1, beginning in 1989. Policies renewing after June 1988 were written pro rata to December 31, 1988, so that much of the business was renewable January 1. Also, some major competition entered the market in Maryland and were soliciting Med-Mutual policyholders as renewals came up and at year end. The Agency added some staff persons in the property and casualty department to handle the very large volume of activity at year end, with the result that very little business was lost to the competition and more clients were gained, for a net increase in the volume of policyholders through the Med Chi Agency.

It was another successful year for the Agency, and the Faculty and the membership will benefit as a result.

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George S. Malouf, Sr. MD
Francis C. Mayle, Jr. MD
Jose M. Yosuico MD

Medicine and Religion

Mr. President and Members of the House of Delegates:

The Medicine and Religion Committee held three meetings during the past year. Activities included:

a. Sponsoring the Prayer Breakfast during Med Chi's 1989 Annual Meeting at which Ann Neale PhD gave a presentation, "A Theological Perspective on the Obligation to Prolong Life."

b. Cosponsoring a session with the Professional Ethics Committee during Med Chi's 1989 Annual Meeting entitled "Cardiopulmonary Resuscitation-Every Patient's Right or Exercise in Futility?"

Leslie R. Miles, Jr. MD, Chairperson

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Medicolegal

Mr. President and Members of the House of Delegates:

The Medicolegal Committee, sponsored jointly by the Medical and Chirurgical Faculty of the State of Maryland, the Maryland State Bar Association and the Baltimore City Bar Association, has continued its work in bringing the medical and legal professions closer together. The Committee rendered advisory opinions on complaints from either discipline and was involved in binding arbitration of a dispute. Again this year, the Committee organized a Medicolegal Hotline staffed by committee members for quick resolution of simple disputes.

In addition, the Committee prepared a survey for use by the medical and legal professions to identify and address current problems. The survey is to be published in the journals of the two professions. The Committee developed Expert Witness Guidelines for adoption by the Council of the Faculty and the Board of Governors of the Maryland State Bar Association.

The Committee also sponsored and presented a program at the Mid-Year Meeting of the Maryland State Bar Association on the effect of recent legislation on malpractice claims. At the April Annual Meeting of the Faculty, the Committee sponsored a session on "Breach of Confidentiality or Duty to Warn? - An Expanding Legal Duty."

The Co-Chairs of the Committee thank the Committee members for their assistance and support during the past year.

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Augustus F. Brown, IV Esq., Co-Chairperson

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Minda Ancheta-Datoc MD
B. F. Beran MD
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Max Israelson Esq.
H. Albert Korn Esq.
L. Richard Phillips Esq.
Jeffrey A. Shane Esq.
Michael D. Steinhardt Esq.
Patti G. West Esq.

Mental Health

Mr President and Members of the House of Delegates:

The Committee on Mental Health held five meetings during the past year. These items were discussed and/or acted upon:

The Bylaws Committee of Med Chi approved the Committee's request for a name change from "The Committee on Emotional Health" to "The Committee on Mental Health," which better identifies the Committee and its activities. A change in the Bylaws also was proposed. The Committee proposed that the last word in the Bylaws, "alcoholism," be changed to "substance abuse." This issue is still pending. Concerns regarding social workers making medical diagnoses continued to be explored. The Attorney General's Opinion, "Referrals of Patients with Psychiatric Illness to Social Workers," prompted the Committee to begin developing guidelines for physicians to use when referring a patient to a social worker. Completion of this endeavor will be a top priority in the coming year.

The Committee considered two bills submitted by Med Chi's Legislative Committee: Senate Bill 78, Health Insurance - Mental Illness - Extension of Termination Date; and House Bill 50, Mental Health Care Providers - Limits on Liability. The Committee supported both bills.

Articles were submitted for future publication in the *Maryland Medical Journal.* A goal of the Committee has been to improve communication and collaboration between psychiatrists and other physicians in Maryland via the column "Today's Psychiatry" in the *Maryland Medical Journal.*

Chairman of the Committee on Alcoholism and Chemical Dependency, N. Joseph Gagliardi MD, was invited to one of our meetings to promote increased dialogue between the two Committees and to learn more about mental health issues that affect both groups.

The Committee, in cooperation with the Maryland Psychiatric Society, cosponsored the presentation "The Psychiatric and Medical Problems of the Homeless" at Med Chi's Annual Meeting. The presentation was well received.

The Committee looks forward to a productive 1989-1990 year. The Co-Chairpersons thanks each Committee member for his/her time and effort in working to improve the quality of care for Marylanders.

Jeanne S. Kraus MD, Co-Chairperson
Carol C. Kleinman MD, Co-Chairperson

Ido Adamo MD
Richard H. Anderson MD
Emile A. Bendit MD
Merrill I. Berman MD
Christopher T. Bever MD
Michael C. Bisco MD
Arnold Brenner MD
Ronald E. Cann MD
Roberto S. Castrence MD
Daniel E. Kohn MD
Mark Komrad MD
Thomas Krajewski MD
Henry C. Mellette MD
Nancy T. Nichols MD
Michael D. Potash MD
Betty W. Robinson MD
Jeffrey Rosenfeld MD
Edward T. Schnoor MD

Lino Covi MD
William A. Dear, Jr., MD
Lynne D. Diggs MD
Edward Suarez-Murias MD
Leonard M. Zullo MD

Music Medicine Clearinghouse Advisory Board

Mr. President and Members of the House of Delegates:

During the first six months of its existence the Clearinghouse has made a great deal of progress. The Board held two regular meetings and one call meeting, all well attended. A brochure containing a description of the Clearinghouse, services offered, and fees has been completed. A mission statement has been developed to offer guidance in future activities.

In January 1989 the Clearinghouse hosted a visit by Dr. Hunter Fry, an Australian expert in the field of music medicine. A group of local physicians and musicians attended the luncheon and informal discussion afterward. Topics included comparison of treatment successes and failures, total versus partial rest, physician-patient communications, and possibilities for further organizing the local music medicine expertise.

The major effort for the year was participation in the Faculty's Annual Meeting. The Clearinghouse sponsored a session on "Special Problems and Needs of the Instrumental Musicians" by Richard Lederman MD, an internationally known neurologist from the Cleveland Clinic. The lecture was attended by a large number of physicians, allied health professionals, and musicians. The Clearinghouse also had a small table in the exhibit hall to display some of their products and run the music medicine slide show.

The Clearinghouse is exploring the possibility of liaison activities with the International Arts-Medicine Association. The IAMA president, Richard Lippin MD of Philadelphia, visited in March to explain the association's goals. They are hoping to involve a number of organizations in a comprehensive, international approach to information management in the broad field of arts medicine. The Board is awaiting more specific proposals before committing themselves to cooperative efforts.

The Annual Meeting and the overtures from the IAMA have raised a number of issues to be considered next year. A mailing list of interested persons and organizations, both locally and nationally, is being developed. More organized publicity and marketing of Clearinghouse services to libraries, symphonies, music and medical schools, medical specialty societies, music associations, etc. is a major goal. Other ideas being considered include a newsletter, chamber music concerts, and a small conference.

Melissa McDiarmid MD, MPH, Chairperson

Harold Bob MD
John DeHoff MD
Christian Mass MD
Jeffrey Palmer MD
Roy Scholz MD

Nominations

Mr. President and Members of the House of Delegates:

For presentation to the House of Delegates, Wednesday, April 12, 1989. (Those elected will assume office at conclusion of the Annual Meeting, 1990, unless otherwise indicated.)

President-elect 1989-1990
President 1990-1991
Reynaldo L. Lee-Llacer
Clinton, *Prince George's County*

First Vice-President 1990
Marvin Schneider
Wheaton, *Montgomery County*

Second Vice-President 1990
Bahram Erfan
Riverdale, *Prince George's County*

Third Vice-President 1990
Alex Azar
Salisbury, *Wicomico County*

Secretary 1990
Harold B. Bob
Baltimore, *Baltimore County*

Treasurer 1990
Jose M. Yosuico
Baltimore, *Baltimore City*

Committee on Scientific Activity 1990-1996
John H. Mulholland 6-year term
Baltimore, *Baltimore City*

Finney Fund Committee 1990-1995
Theodore E. Woodward 5-year term
Baltimore, *Baltimore City*

Delegates to the AMA
Albert M. Antlitz, Baltimore, *Baltimore City*
January 1, 1990 - December 31, 1992
Roland T. Smoot, Baltimore, *Baltimore City*
January 1, 1990 - December 31, 1992



Dr. Leon E. Kassel presenting the slate of nominations to the House of Delegates.

Joseph Snyder, Silver Spring, *Montgomery County*
January 1, 1989 - December 31, 1991

Alternate Delegates to the AMA

Barry E. Epstein, Baltimore, *Baltimore City* (Resident)
January 1, 1990 - December 31, 1992
Daniel P. Paoli, Baltimore, *Baltimore City* (Student)
January 1, 1990 - December 31, 1992
Raymond M. Atkins, Baltimore, *Baltimore City*
January 1, 1989 - December 31, 1991
J. David Nagel, Lutherville, *Baltimore County*
1989 Annual Meeting - December 31, 1990

Board of Physician Quality Assurance
(4-year term, 6/30/89 - 6/30/93)

(Faculty Bylaws require that a minimum of twice the number of nominees shall be submitted as there are seats to be filled.)

R. Marshall Ackerman (ORS)
Rockville, *Montgomery County*
Ira N. Brecher (GS)
Silver Spring, *Montgomery County*
Lawrence A. Jones (U)
Hagerstown, *Washington County*
David P. Largey (GS)
Salisbury, *Wiconico County*
Lorenzo Marcolin (ORS)
Rockville, *Montgomery County*

Nominating Committee
Leon E. Kassel MD, Chairperson, Baltimore

Susan R. Guarnieri MD, Baltimore City District
Harold B. Bob MD, Baltimore County District
Lawrence H. Fink MD, Montgomery County District
Reynaldo L. Lee-Llacer MD, Prince George's County District
Farouk A. Sultani MD, Eastern District
Wenifredo Iglesia MD, Western District
Aurelio De La Paz MD, Southern District
John F. Kressler MD, Member-at-Large

Occupational Health

Mr. President and Members of the House of Delegates:

The Occupational Health Committee met five times during the past year. The Committee continues to study and report on all phases of occupational health, particularly occupational health problems in industry that directly affect the worker. During this year, Committee efforts were focused on the treatment of lower back injuries.

In keeping with this focus, the Committee held a panel session at Med Chi's Annual Meeting, "Caring for the Industrial Back Pain Patient: The Roles of Myofascial Pain and Manipulation." Dr. Stephen M. Levin, Associate Clinical Professor, Orthopaedic Surgery, University of Michigan, and Dr. Norman B. Rosen, FAAPMR, Medical Director, Rehabilitation and Pain Management Associates, were among those who spoke on recent advances in the diagnosis and management of low back pain, highlighting the role of manipulation therapy and soft tissue injection therapy.

Michael K. Spodak MD, Chairperson

Timothy D. Baker MD
Herbert L. Blumenfeld MD
James Frenkel MD
Georgina Y. Goodwin MD
Thomas E. Hobbins MD
James P. Keogh MD
James D. Levy MD
Kenneth R. Lippman MD
John T. Lord MD
Ferdinand Mainofli MD
Emmanuel M. Maniago MD
Robert L. Marcus MD
Christian S. Mass MD
John P. Nasou MD
James R. Nethercutt MD
Michael D. Potash MD
Norman B. Rosen MD
Edward G. Rupert MD
Henry S. Sabatier MD
Henry M. Scagliola MD
George W. Settle MD
Stephen C. Vance MD
Edwin W. Whiteford MD

Peer Review

Mr. President and Members of the House of Delegates:

This past year changes in the structure of the State of Maryland's physician discipline process have brought many changes in the peer review process. The number of complaints being filed with the new Board of Physician Quality Assurance (BPQA) is greater than ever; however, the BPQA has more staff support including investigators who assist in obtaining information for consideration by review committees. Another significant change is the new requirement that peer review be conducted by physicians of like specialty. As a result, the Committee has required additional support from the Maryland Specialty Societies.

To support actions by the BPQA, the Peer Review Committee is conducting comprehensive practice evaluations in a more timely fashion and with greater completeness. Committee members and staff have devoted much time and energy to improving the peer review system. Much time was devoted to developing a *Peer Review Handbook* to be used as a working guide for uniform peer review across the state. This *Handbook* has been submitted to the BPQA as a source for regulations regarding peer review.

The Committee's activities require the committment of individual members' time to conduct site visits to physicians' offices and/or to review medical records of physicians under review and to prepare detailed written reports of the findings. In some cases, Committee members must testify before the BPQA to support a formal action. The Committee's activities for the past year are reflected in the following statistics:

Cases referred by the CMD/BPQA	47
Physicians interviewed	9
Site visits	18
Medical record reviews	25
Completed reports to the CMD/BPQA	58

These figures do not include cases referred to component societies or single patient complaints referred to another Med Chi committee for review.

Committee members and staff are dedicated to the peer review process and are anxious to continue improving the process for the betterment of the profession and the community.

The Chairman wishes to express his gratitude to all Committee members, to the specialty consultants, and to the Med Chi staff for its able assistance.

Emidio A. Bianco MD, Chairperson
Jerome P. Reichmister MD, Co-Vice Chairperson
Sidney B. Seidman MD, Co-Vice Chairperson

Joseph S. Ardinger MD
Ronald J. Cohen MD
Augusto R. Deleon MD
Liebe S. Diamond MD
Pablo E. Dibos MD
William H. M. Finney MD
William M. Fitzpatrick MD
Christopher M. Harvey MD
Charles G. Hobelmann, Jr. MD
A. Clark Holmes MD
William H. B. Howard MD
Victor R. Hrehorovich MD
James W. Karesh MD
Charles W. Kinzer MD
Eugene R. McNinch MD
Edward J. Richards MD
Susan T. Strahan MD
Larry G. Tilley MD
Richard L. Wolfe MD
Herbert L. Yousem MD

Physician/Patient Relations

Mr. President and Members of the House of Delegates:

The Physician/Patient Relations Committee has maintained a vigorous schedule throughout the past year. Improvements have been made in the overall peer review process, and this Committee has made great strides toward completing all investigations within 90 days as required by law. This has been made possible by the increased attention to the process and the dedication of physicians involved in peer review. The Committee continues to investigate complaints involving standards of medical care including Health Claims Arbitration cases and fee disputes. Reports of the Committee's findings and its recommendations are forwarded to the Board of Physician Quality Assurance for consideration and disposition.

The Committee's activities are reflected in the following statistics:

Cases referred by the CMD/BPQA	103
Total interviews	7
Physicians	7
Completed reports submitted to CMD/BPQA	152
Grievances between physicians	2

In addition, Committee members and staff responded to countless inquiries regarding the practice of medicine and related issues. These questions vary in source and complexity and are answered thoroughly and appropriately. This activity fosters an open line of communication that supports and enhances the physician/patient relationship.

Committee members and staff are devoted to the peer review process and are eager to continue improving the process for the betterment of the profession.

The Chairperson expresses her gratitude to all the Committee members and staff for their continued support and efforts to this process.

Lois E. Wehren MD, Chairperson

Jack D. Francis MD
Mary B. Gorman MD
Gerald A. Hofkin MD
Danilo G. Lee MD
Robert A. Liss MD
Raymundo S. Magno MD
B. Martin Middleton MD
Benjamin Rothfeld MD
Lex B. Smith MD
W. Haddox Sothoron MD
James G. Zimmerly MD

Physician Rehabilitation

Mr. President and Members of the House of Delegates

The Committee on Physician Rehabilitation has further expanded its umbrella of advocacy by in-



Physician Rehabilitation Advocate Michael Llufrio displays the Physician Rehabilitation Committee calendar.

creasing the number of cases, increasing staff, enhancing services, and improving the loan program.

Last year we were fortunate to hire a Physician Rehabilitation Advocate. Also hired was a new Coordinator of Rehabilitation Follow-up, who came to us after a number of years working for the state directly with the Commission on Medical Discipline and Board of Medical Examiners and with their successor the Board of Physician Quality Assurance.

In September 1988 the Committee sponsored a conference: Professional Rehabilitation: Intervention and Treatment. The keynote speakers, Dr. Vernon Johnson, founder of the Johnson Institute, and Dr. G. Douglas Talbott, are renowned authorities on treating impaired professionals. The conference was well attended and received very positive evaluations from those in attendance.

We are designing and implementing marketing strategies for the Committee. Our brochure and slide show have been improved through redesign and updating. Beginning in January 1989 the services of the Committee have been advertised in the *Maryland Medical Journal*. As a result of these ads, several thousand dollars in donations have been received. These monies have been used to start an endowment to help ensure the ongoing services of the Committee. The advertisements will continue to run in *MMJ* each month. Other means of "getting the message out" are being explored and will be implemented as they become available.



Dr. Louis C. Breschi receives a Certificate of Recognition for his outstanding chairmanship of the Committee of Professional Ethics.

The record-keeping system has been upgraded and restructured with special emphasis given to ease of access to the information enclosed in the record. Using the upgraded record and resources of the Committee has improved substantially our monitoring system and allows us to offer the greatest amount of support to our colleagues under the advocacy of the Rehabilitation Committee.

The Committee loan program has been greatly improved and bad debt decreased as accounts receivable have increased. Bad debt was decreased by nearly $20,000 between 11 August 88 and 13 March 89. During this same period accounts receivable increased nearly $15,000.

Within the next year we look forward to using a secured database to store information about the physicians under our advocacy. This will enable even better access to information for the purpose of statistics, program evaluation, and communication.

Edward J. Kitlowski MD, Chairperson

William E. Abramson MD
H. Patrick Adams MD
Richard H. Anderson MD
Andrew Baer MD
Charles Beattie MD
Morris Effron MD
Juan Gan MD
Georgina Y. Goodwin MD
Robert S. Goodwin MD
Paul F. Guerin MD
Cyril G. Hardy MD
Robert R. Kent MD
Ramesh K. Khurana MD
Henry P. Laughlin MD
Robert M. Marine MD
Donald C. Meek MD
Dan H. McDougal MD
Patricia McIntyre MD
Edson B. Moody MD
Robert M. Ollodart MD
Claro L. Pio Roda MD
Laurie J. Poss MD
Barry F. Rudnick MD
Richard Schlottman MD
Edward T. Schnoor MD
Maxwell N. Weisman MD
Raymond Wertheim MD
Charles Whitfield MD
Curtis Wright MD
Mauricio I. Zeplo MD

Professional Ethics

Mr. President and Members of the House of Delegates:

Members of the Committee on Professional Ethics have participated in various forums and programs to educate the medical community on the ethical responsibilities of physicians in matters pertaining to other physicians and to the public. In this regard, the Committee developed a new ethical opinion on MD or DO Assistant's Fees and revised opinions on Return to Work Statements and Medical Partnerships Between Physicians and Non-Physicians. At the direction of the Council, the Committee revised the policy statements of the Council on Bank Cards, Charging Interest on Past Due Accounts, Discrimination, Professional Courtesy, and Physician Services to Dependents. In addition, the Council

readopted without amendment its policy statement on Compulsory Assessment of Hospital Staff Members and deleted its policy statements on Industrial Medical Referrals and Percentage Fee Charges.

The Committee also developed suggested form letters for guidance when terminating a physician/patient relationship under any circumstance, including the sale of a practice, death, or retirement of a physician.

The Committee cosponsored with the Committee on Medicine and Religion an educational program at the Faculty's Annual Meeting in April, "Cardiopulmonary Resuscitation - Every Patient's Right or An Exercise in Futility?"

The Committee continues to review proposed corporate names for professional associations and corporations.

The Committee is involved in an update of the 1984 *Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland* with anticipated distribution in late 1989.

The Chairman expresses his regard and appreciation to the hardworking and dedicated members of this Committee who continue to give unselfishly of their time to the important work of this Committee.

Louis C. Breschi MD, Chairperson

Beth L. Aronson MD
Edilberto Beltran MD
Vincent O. Casibang MD
Jack C. Childers, Jr. MD
Joseph R. Gladue MD
Edward J. Goldman MD
Eugene Guazzo MD
Stephen N. Jones MD
Robert C. Karlsberg MD
Leslie R. Miles, Jr. MD
Julian J. Platt MD
Bruce Rosenberg MD
Benjamin Rothfeld MD
Frank E. Schuster MD
Ronald J. Taylor MD

Professional Review Organization Monitoring

Mr. President and Members of the House of Delegates:

The PRO Monitoring Committee continued to maintain close liaison with the federally designated Professional Review Organization, the Delmarva Foundation for Medical Care, Inc. While the Faculty has neither review power nor legal authority over the PRO, a satisfactory working relationship with the Delmarva Foundation continues to be maintained.

Significantly, the Delmarva Foundation for Medical Care, Inc. entered into a new contractual relationship with the federal government known as the "Third Scope of Work," which took effect April 1, 1989 through March 31, 1992. Under the new scope of work there will be an increase in the involvement of the PRO in physician review and interaction.

On the issues of proposed federal regulations for Denial of Payment for Substandard Quality of Care and Review of Beneficiary Complaints, the Committee developed a position that was approved by the Council and forwarded to the Maryland Congressional Delegation. Essentially, Med Chi's expressed position is that both proposals would be damaging to physician/patient relationships, and that adequate due process must be built into the system including prompt reconsideration of quality denials by physicians in the same medical specialty as the physician whose services are under review. Med Chi also went on record that when reviewing beneficiary complaints concerning quality, PROs should notify the patient that the quality of services does not meet professionally recognized standards *only* if it finds a serious quality problem. In determining whether a serious quality problem exists, PROs should use the same standards they will use for making quality denials: that the care does not meet professionally recognized standards and results in either an actual, significant, adverse effect on the beneficiary or constitutes a gross and flagrant violation of Medicare obligations.

Another area of concern is the issue of Preadmission/Preprocedure Review Requirements for certain elective procedures, which took effect April 1, 1989. Med Chi expressed its concern regarding the timeliness of required notification of physicians by the PRO concerning this federal review requirement.

I wish to take this opportunity to thank R. Lane Wroth MD, Medical Director; Linda Clark, Executive Director; and Jean Murphy, Vice-President for Review for their availability and cooperation.

Additionally, I thank the members of this Committee for their valuable expertise and committment to this work on behalf of all members of the Medical and Chirurgical Faculty of Maryland.

John A. Singer MD, Chairperson

Willie Blair MD
Charles Boice MD
Danilo Coronel MD
Peter Dans MD
Augusto DeLeon MD
Francis Fowler MD
Marion Friedman MD
Vernon Gelhaus MD
David Glasser MD
Byron Hurwitz MD
Roland Imperial MD
Alfonso Janoski MD
John MacGibbon MD
Karl Mech MD
Bhalabhai Patel MD
Humberto Rossi MD
Richard Scholz MD
Edmundo Singca MD
Paul Sullivan MD
James Toher MD
Karl Weaver MD
Kennard Yaffe MD

Public Health

Mr. President and Members of the House of Delegates:

During the 1988-89 operational year of Med Chi, the Committee on Public Health exercised its charge to review Med Chi's existing committee structure as it relates to public health and to develop recommendations to improve Med Chi's effectiveness in managing public health issues.

Pursuant to this, the Co-Chairmen of the Committee on Public Health had numerous meetings and developed a series of recommended bylaw amendments that were considered by the House of Delegates on April 12, 1989. Essentially, the proposal would centralize Med Chi's approach to public health, thereby strengthening the Faculty's effectiveness to improve public health services for the citizens of Maryland. The House of Delegates deferred implementation of these recommendations pending further review by the Bylaws Committee and the Committee on Public Health.

Other Committee activities included meetings with the Deputy Secretary of the Department of Health and Mental Hygiene concerning public health initiatives; monitoring of Medicaid Diversion Proposal conjointly with the Liaison Committee with the Department of Health and Mental Hygiene (Co-Chairman, Herman C. Maganzini MD testified in the Legislature [AELR Committee] regarding implications of proposal); reestablished the Subcommittee on Maternal Welfare to act on variations of cesarean section rates in Maryland; the Subcommittee on Sports Medicine assisted the Maryland State Games Commission in planning medical support for amateur athletic competition, June 16-18, 1989; and finally, the Committee heard a presentation from U.S. Army representatives regarding biological defense research program at Edgewood Arsenal and Fort Detrick, Maryland.



Med Chi's Public Relations Assistant Betsy Newman in the lobby at Turf Valley during a brief moment between meetings.

On behalf of the Committee on Public Health, we appreciate the opportunity to participate in this essential area of Med Chi activities.

Herman C. Maganzini MD, Chairperson

William A. Andersen MD
Joyce M. Boyd MD
John B. De Hoff MD
George M. Demetrakopoulos MD
Vincent D. Fitzpatrick MD
John M. Krager MD
Janet W. Neslen MD
Hilary T. O'Herlihy MD
J. Courtland Robinson MD
Michael A. Sauri MD
Annelies S. Zachary MD

Public Relations

Mr. President and Members of the House of Delegates

The Public Relations Committee took on several new projects during its 1988-1989 session.

In a joint effort the Public Relations Committee and the Committee on Computers in Medicine developed a special section within the already established Maryland Med Sig computer bulletin board system that provides up-to-date information on issues at Med Chi and the AMA, and news about Med Chi programs and services. Questions or requests for clarification may be directly entered into the system, allowing Med Chi to respond to any issue almost immediately. This new communications system has the potential to increase the flow of information between Med Chi, individual physicians and component society officers. The only equipment necessary to use this system are an IBM compatible computer and a telephone modem.

In January 1989 Med Chi began co-producing a nationally aired version of "Consultation," a one-hour radio talk program coordinated by the Public Relations Committee. "Consultation" is now heard on over 30 radio stations across the country. Subjects discussed on the national program include AIDS, Nutrition, Cancer, Sports Medicine, and Headaches. In addition, a local version of "Consultation" continues to air on WBAL-AM radio on Sunday at 7 a.m.

In March 1989 the Public Relations Committee presented its proposal for a new letterhead and logo to the Med Chi Council. The new stationary was accepted with a few modifications. The new letterhead features the traditional Med Chi Seal next to an updated name and look for the masthead that will now read, "The Medical and Chirurgical Faculty of Maryland." For those unfamiliar with our organization, an explanation of our name, "Maryland State Medical Society," appears at the bottom of the page. Med Chi's FAX number and the address for the Annapolis Office also appears on the new letterhead, which is scheduled to be printed later in 1989 when supplies of the old stationary begin to diminish.

An annual "Award for Excellence in Organized Medicine" was established to recognize the contribu-

tions Maryland medical students make to organized medicine. The award was created to encourage medical students' involvement in organized medicine and to increase Med Chi's visibility at Maryland's medical schools. The Deans of Student Affairs at Johns Hopkins University Medical School, the University of Maryland, and the Uniform Services University of Health Sciences will be asked to nominate a graduating senior who demonstrates outstanding activity in the cause of organized medicine. Nominees must be Med Chi members and, preferably, members of the AMA. All nominations will be subject to review and approval by Med Chi's President. Recipients of the award will receive a plaque presented by a Med Chi representative during their respective graduation ceremonies. For the second year, the Public Relations Committee's postal plate was used to promote Doctor's Day on March 30th. The plate bears a red carnation (the official symbol of Doctor's Day) and was used by the Faculty and several hospitals throughout the state to publicize this special occasion.

In April the Public Relations Committee sponsored the Ninth Annual Photo Contest. Faculty and Auxiliary members entered over 20 photos in both the color and black-and-white categories. All photographs were judged by Stephen Spartana, a professional photographer from Baltimore. First and second prizes were awarded and names of the winners were announced during the House of Delegates Session of the Annual Meeting. Jerrold Post MD won first and second place in the color category. The first place winner in the black-and-white category was David Paul MD and Irvin Wachsman MD won second place in the black-and-white category. All entries in the photo contest were on display during the Annual Meeting.

Certificates of Recognition were presented during the House of Delegates Session of the Annual Meeting to three physicians for their outstanding service and dedication as chairmen of Med Chi committees. President Michael R. Dobridge MD presented certificates to Victor R. Hrehorovich MD, Chairman of the Committee on Hospital Medical Staffs, Louis C. Breschi MD, Chairman of the Committee on Professional Ethics, and Emido A. Bianco MD, Chairman of the Peer Review Committee.

The Public Relations Committee focused attention on the A.H. Robins Award for Community Service by distributing a new handout to describe the award, which resulted in increased nominations over last year. Med Chi's President presented the award during the Annual Meeting to Hiroshi Nakazawa MD of Baltimore.

In July 1989 the Public Relations Committee began a monthly advertisement for Med Chi's Speaker's Bureau in the *Maryland Medical Journal.* This advertisement is intended to increase recruitment of physician speakers who are needed to form an organized network of topics and speakers. Physicians in the Speaker's Bureau will be asked to respond to requests from the public and the media for information on their specialty or topic.

The Committee replaced its monthly health clippings packets with daily health clippings from the *Baltimore Sun, The Evening Sun,* and *The Washington Post,* which are distributed to key staff members. The Committee maintains an extensive health clippings file from all Maryland papers, and it is available for use by all Med Chi members.

In May 1989 the Public Relations Committee formed a new Tel-Med subcommittee that will review, update, and approve scripts contained in Maryland's Tel-Med Master Library. The new subcommittee will serve in an advisory capacity to the six Tel-Med programs presently operating in Maryland.

In response to the growing trend in the media to diminish the public image of physicians, the Public Relations Committee submitted a proposal to amend the Article XI, Section 31 of the Bylaws that describes the function and organization of the Public Relations Committee. The amendment, which is under review by the Bylaws committee, proposes that "to enhance the image of physicians" be included as a function of the Public Relations Committee.

The Committee began planning articles for a new Public Relations column in the *Maryland Medical Journal* for submission to the Editorial Board. The purpose of the column will be to provide information to physicians on how to improve patient relations. The column may also include informational bulletins about Med Chi Committee activities and medical issues in Maryland.

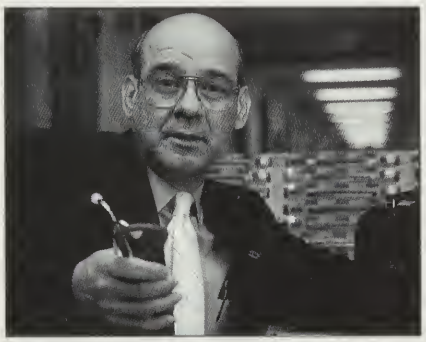
The goal of the Public Relations Committee is to create the best possible image for physicians in the eyes of the public. The Committee welcomes comments and suggestions from Med Chi members regarding its activities. As Chairman, I thank the members of my committee whose time and effort have made this a successful year.

William A. Cassidy MD, Chairperson

Elliott M. Berg MD
Donald C. Chambers MD
Jackie Chang
K. G. Dristas MD
William J. Dunseath MD
Lawrence R. Feldman MD
Antonio Galindo MD
Abolghassem M. Gohari MD
William Korman MD
Marc Lowen MD
Fred Magaziner DDS
Mark E. Mausner MD
Hiroshi Nakazawa MD
Ibrahim A. Razzak MD
Gholam Sadjadi MD
Margaret T. Snow MD
Stephen C. Vance MD
Theresa Vogel MD

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Theodore C. Patterson, M.D.
Medical Director,
Meridian Nursing Center—Heritage

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Reference

Mr. President and Members of the House of Delegates:

On March 13, 1989, the Reference Committee considered the following resolution:

Resolution 1A/89
Student and Resident Participation

Whereas, The Medical and Chirurgical Faculty of Maryland was among the first state medical societies to establish Student and Resident Component Medical Societies;
Whereas, the Medical and Chirurgical Faculty of Maryland has continued to encourage its student and resident members to participate in its activities including the Council and House of Delegates; and
Whereas, Student and Resident Component Societies will continue to provide new membership vital to a dynamic, growing medical society; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland continue to involve its student and resident members in appropriate levels of Faculty activities.

The Reference Committee recommends adoption of this resolution.

Resolution 2A/89
Natural Science Ambassador Project

Whereas, The technology and sophistication of modern medicine has evolved through advancements in the various disciplines of the natural sciences;
Whereas, The continued stature of American medicine and technology relies upon the achievements of scientists both present and future;
Whereas, In a recent evaluation of science aptitude, American 17 years old placed near the bottom of a 17 country comparison;
Whereas, 50 percent of Japanese scientists and engineers are under the age of 35, while only 28 percent of their American counterparts are of such age;
Whereas, The classroom can be a vehicle by which to captivate a student's attentions and imagination; and
Whereas, The American Medical Association is developing a project introducing scientist "Ambassadors" into classrooms for the purpose of student enlightenment, with the intention of stimulating interest toward concerns in the Natural Sciences; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland establish a Natural Sciences Ambassador Project; and be it further
RESOLVED, That project coordination be accomplished through the voluntary involvement of Component Medical Societies with their respective Boards of Education.

The Reference Committee recommends adoption of the above resolution.

Resolution 3A/89
Ophthalmic Surgical Care

Whereas, A surgeon's obligations to a patient do not end with the conclusion of an operation;
Whereas, This physician-patient relationship, unless appropriately terminated by one or both of the parties, continues until ended by the cessation of the medical necessity which gave rise to the relationship;
Whereas, The management of postophthalmic surgical care constitutes the practice of medicine and cannot be managed by other health care practitioners;
Whereas, Postophthalmic surgical care is inseparable from the entire surgical process as it involves monitoring the recovery process, detecting and diagnosing conditions arising during the recovery process, and taking steps to treat postsurgical problems;
Whereas, Ophthalmologists, because of their unique competence to diagnose and treat postoperative ocular pathologic conditions, are the only health care professionals who are fully educated and trained to manage and provide postoperative medical eye care;
Whereas, The American Academy of Ophthalmology believes the provision of postoperative care by nonphysicians represents patient abandonment and is certainly not in the best interest of the patient; and
Whereas, The Maryland Board of Medical Examiners in July 1986 has affirmed that the rendering of postoperative care is the practice of medicine and cannot be legally delegated; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland asserts that, in keeping with the sound professional practice of medicine, the provision of postoperative medical eye care is the responsibility of the ophthalmologist and can be neither legally nor ethically delegated to a nonphysician.

The Reference Committee recommends adoption of the above resolution.

Subject 4A/89
Women Physicians in Organized Medicine

Whereas, The professional expertise, skills and leadership of women are important to the future of organized medicine;
Whereas, Women are entering the medical field in increasing numbers; and
Whereas, Women physicians have made outstanding contributions to the fields of research and development and clinical medicine; therefore, be it
RESOLVED, That the Medical and Chirurgical

Faculty of Maryland in cooperation with its component societies, actively recruit women members; and be it further,
RESOLVED, That the Medical and Chirurgical Faculty of Maryland encourage women physicians to actively participate in organized medicine through increased committee and other leadership involvement.

The Reference Committee recommends adoption of the above resolution.

Aubrey C. Smoot MD, Chairperson, Salisbury

Max E. Byrkit MD, Williamsport
Zorayda Lee-Llacer MD, Clinton
Gary L. Rosenberg MD, Baltimore
Margaret T. Snow MD, Silver Spring

Scientific Activity

Mr. President and Members of the House of Delegates:

The 1988 Semiannual Meeting was held at the Southhampton Princess Hotel, Bermuda, September 14-18, 1988. The 108 attendees rated highly the 10 CME credits offered during the scientific sessions. Contributors to the sessions included James E. Davis MD, President, American Medical Association and James A.C. King MD, President, Bermuda Medical Society, as well as Michael R. Dobridge, President, Med Chi and other Maryland physicians.

The 1989 Annual Meeting was held at the Turf Valley Hotel and Country Club in Ellicott City, April 12-14, 1989. Various specialty societies collaborated in order to increase attendance. This proved to be a successful approach.

Once again, the Committee on Scientific Activity combined some new ideas with some old ones. To emphasize the impact of costs on the quality of health care, the thrust of the Plenary Session centered on "Can We Afford Our Health Care System?" Speakers Edward R. Annis MD, Past President, American Medical Association spoke on "Broken Promises/Increased Challenges," and John Lee Clowe MD, Speaker, House of Delegates, American Medical Association addressed "Challenges to the Medical Profession."



Scientific Activity Committee Chairperson Gary Rosenberg and Marsha Rosenberg chat while waiting in the receiving line.

That evening the Maryland Medical Political Action Committee once again presented the Capitol Steps performing at a cabaret. These brilliant satirists presented their views on topics ranging from President George Bush to the Baltimore Orioles. A hot buffet was served to over 200 physicians, legislators, and spouses.

Since the complimentary lunch served last year was so successful, it was offered on Wednesday and Thursday. The Lunch and Learn session was dropped from the program in order to promote higher attendance in the exhibit areas. Overall, those that participated in the luncheons were pleased with the quality of the food.

An audience of 46 attended the Prayer Breakfast at 7:15 a.m. on Thursday. Even though the attendance dropped from last year, participants enjoyed Dr. Anne Neale's presentation "A Theological Perspective on the Obligation to Prolong Life."

A total of 14 Category I CME credits were offered at the Annual Meeting.

Continuing a policy initiated in 1987, all the Past Presidents and their spouses/guests were given complimentary tickets to the Presidential Banquet. There were eight Past Presidents in attendance. The Presidential Banquet, honoring Michael R. Dobridge MD featured a gourmet meal and dancing to the music of Al Lambert's Moneysworth. Additional entertainment included the Pro Cantare singing group and the Philippine physicians dancing group. As part of the evening's activities, Dr. Dobridge presented plaques to the dancers and to the director of the Pro Cantare. He also presented a plaque of appreciation to Gary L. Rosenberg MD, Chairman, Committee On Scientific Activity. In addition, President Raymond M. Atkins MD presented Dr. Dobridge with a Past-President's plaque. Dr. Dobridge presented Dr. Atkins with a Presidential medallion to be worn during his term of office.

Annual Meeting attendance was lower than last year partly due to moving to a new facility and not sending out a preliminary program. Even though overall attendance was down, the scientific sessions showed an increase over last year. Those physicians attending were pleased with Turf Valley and urged Med Chi to return for future meetings.

The next Semiannual Meeting will be held at the Sheraton Fountainebleau Inn and Spa, Ocean City, Maryland, September 14-16, 1989.

In 1988-89, forty requests were received for cosponsorship by the Faculty for Category I CME credits. Four practice management workshops were offered for physicians and office staff during 1988.

The Committee on Scientific Activity appreciates

the assistance given to make this a successful year and wishes to thank the many individuals who gave of their time and effort.

Gary L. Rosenberg MD, Chairperson

Jack M. Zimmerman MD
Ernest E. Harmon MD
Jose Martinez MD
J. Richard Lilly MD
Victor R. Hrehorovich MD
Mrs. Patricia Marshall, Director of Meeting Services

Small Area Practice Variation

Mr. President and Members of the House of Delegates:

The Committee on Small Area Practice Variation continued its activity to study area-to-area variations in the utilization of medical services. It is a priority of the Committee that such activity fall within the province of physicians and that wherever possible individual physicians, appropriate component and specialty societies, and organized hospital medical staffs be involved so that physicians can appropriately evaluate variations in medical practice.

The Committee's educational function included the development of an article, "What Physicians Should Know about Small Area Variation Analysis," by Kazandjian, Dans, and Scherlis published in the June 1989 *Maryland Medical Journal.* Solicitations have also been made to identified experts in the field for a planned "devoted" issue of the *Maryland Medical Journal* on small area variation analysis. Additionally, the Chairman presented a session during the 191st Med Chi Annual Meeting to educate physicians regarding the growing activity in the study of small area variation and why it is important for physicians to be proactive. Plans are under way for additional educational programs for the next Annual Meeting.

The Committee did involve the Med Chi Subcommittee on Maternal Welfare and the Obstetrical and Gynecological Society of Maryland regarding cesarean section rates and related activities by the Maryland Hospital Association. The involvement of appropriate physician oranizations has been beneficial. Variations in other procedures such as carotid endarterectomy and prostatectomy are also being addressed.

As Chairman, I extend my appreciation to each member of the Comittee for his valuable time and expertise in this Faculty activity.

Peter E. Dans MD, Chairperson

Paul Burgan MD
Ali Daneshvar MD
Allen Ditto MD
James Gieske MD
Harry Katz MD
Frank Kuehn MD
John Meadowns MD
John Meyerhoff MD
David Morales MD
Leonard Scherlis MD
Ajaib Sidhu MD
Harry Smith MD
Aroon Suansilppongse MD
Jack Zimmerman MD

Specialist Identification

Mr. President and Members of the House of Delegates:

The Committee on Specialist Identification met twice during the past year to carry out its function as the reviewing body for the Board of Physician Quality Assurance in the area of Specialist Identification. At this date, approximately 1,200 applications have been evaluated by the Committee with recommendations to the Board of Physician Quality Assurance.

Application for specialty designation is legally required for all licensed physicians in Maryland. If a physician is certified by the American Board of Medical Specialists, the identification is automatically given by the Board upon confirmation of that credential. If not certified by the American Board of Medical Specialists, the physician must complete an application outlining specific training and experience in the requested specialty.

Much time and effort has been exercised in reviewing applications received thus far. Each application is reviewed thoroughly, fairly, and in compliance with established criteria. Liaison has been satisfactorily maintained with the Board of Physician Quality Assurance members John Lynn MD and Claude Hill MD, who represent the Board for specialist identification.

On behalf of the Committee on Specialist Identification, we appreciate the opportunity to carry on this activity.

Joseph I. Berman MD, Chairperson

Aristides C. Alevizatos MD
Willarda Edwards MD
Samuel Friedel MD
Daniel McCrone MD
B. Martin Middleton MD
Hiroshi Nakazawa MD
Jose M. Yosuico MD
David Zajano MD

Young Physicians

Mr. President and Members of the House of Delegates:

The Committee worked actively to develop progams and to encourage the participation of young physicians in Med Chi and its component societies. By definition, young physicans are licensed physicians under age forty or in practice less then five years.

The Committee reaffirmed its goals to strengthen the Medical and Chirurgical Faculty through increased membership by young physicians. This shall be done by educating young physicians about organized medicine, the political process, and the many issues surrounding medicine at this time. As membership increases we hope to stimulate the involvement of young physicians in leadership roles at the component society and Faculty levels, thereby bringing the unique perspective of young physicians on medical, political, and socioeconomic issues to the medical society.

The Committee conducted a survey of young physician Med Chi members to obtain demographic information and to assess priorities of young physicians in Maryland. The survey response was significant, and tabulation is now under way. Additionally, a Maryland Delegate to the Young Physician Section of the American Medical Association will attend the AMA Young Physician assembly. This year marked the first Med Chi young physician social gathering during the Med Chi's Annual Meeting. Funding for this event was accomplished by the Young Physician Committee, and plans are under way to repeat and improve the event next year. Through these activities, we plan to further develop young physician involvement and resolve to strengthen Med Chi through increased membership and new program initiatives.

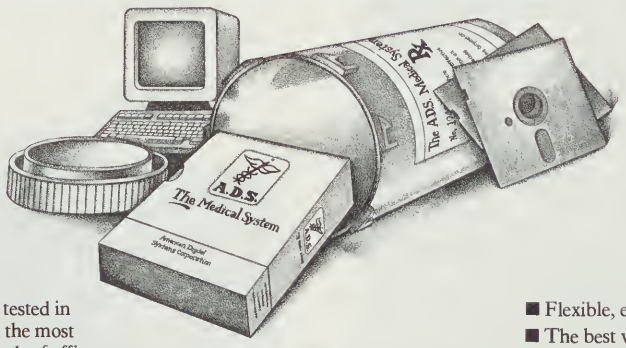
Susan W. Owens MD, Chairperson

Vasant Datta MD
William Delapaz MD
Bruce Edwards MD
Willarda Edwards MD
Randy Ellis MD
Lawrence Feldman MD
Elias Gouel MD
Martin Guerrero MD
B. Larry Jenkins MD
Stephen Kay MD
Robert Klug MD
Eugene Meyer MD
Rajesh Raikar MD
Janet Rice MD
Scott Rifkin MD
Jeffrey Rosenfeld MD
Stephen Vance MD
Theresa Vogel MD
Ziaul Zakai MD

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MAILING ADDRESS _____

_____

TELEPHONE (HOME)_____ (OFFICE) _____

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__Death & Dying
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__Headaches
__Health Insurance
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__High Blood Pressure
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__Home Health Care
__Homosexuality
__Hospice
__How to Select a Physician
__Human Sexuality
__Hyperactivity
__Hypnosis
__Hypoglycemia
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__Infertility
__Internal Medicine

__Kidney & Urinary Tract

__Lasers in Medicine
__Learning Disabilities
__Leukemia
__Low Blood Pressure
__Lung Disease
__Lupus Erythematosus

__Mammography
__Medicaid/Medicare
__Men's Health Concerns
__Meningitis
__Menstruation/Menopause
__Mental Health/Illness
__Mumps, Measles, Chickenpox
__Multiple Sclerosis

__Occupational Medicine
__Orthopedics

__Pain
__Parkinsonism
__Plastic Surgery
__Physical Fitness & Recreation
__Physician Fees & Income
__PMS
__Pneumonia
__Prescription Drugs
__Pregnancy, Childbirth & Infancy
__Preventative Medicine
__Professional Liability
__Poison Control in Your Home
__Psychosomatic Illness

__Radiation Therapy for Cancer
__Radiology
__Rehabilitation/Physical Therapy
__Reye Syndrome
__Rheumatic Fever

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__Senility & Aging
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__Stroke
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__Surgery -- What to Expect

__Teen Pregnancy
__Transplants
__Trichinosis & Other Parasites
__Tuberculosis

__Weight Loss
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Treasurer

Mr. President and Members of the House of Delegates:

The financial books and records of the Medical and Chirurgical Faculty have been audited for the year ended December 31, 1988 by O'Dea and Associates, Certified Public Accountants.

The financial reports reflecting the results of operations for the year 1988 and the financial position of the Faculty at year end are part of this report. The auditors have submitted an unqualified opinion that the financial statements are accurate and conform to generally accepted accounting principles.

The 1989 Budget was approved by Council in January and is presented in this report for your information.

The Faculty investment portfolio was received and is part of the report of the Financial Committee.

Jose M. Yosuico MD, Treasurer

O'Dea & Associates
Certified Public Accountants

The Medical and Chirurgical Faculty
of the State of Maryland
Baltimore, Maryland

We have examined the balance sheet of The Medical and Chirurgical Faculty of the State of Maryland as of December 31, 1988 and 1987 and the related statements of income, expenditures and transfers, and changes in fund balances for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of The Medical and Chirurgical Faculty of the State of Maryland as of December 31, 1988 and 1987 and the results of its operations and the changes in its fund balances for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

O'Dea & Associates

May 22, 1989
Towson, Maryland

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Exhibit A

Medical and Chirurgical Faculty of Maryland Balance Sheet

Assets	General Fund	Endowment and Special Funds	Plant Fund	Med-Chi Insurance Fund	Total December 31, 1988	Total December 31, 1987
Current						
Accounts Receivable	$4,556,214	$ 898,794	$ 9,708	$1,677,544	$ 7,142,260	$ 6,779,082
Membership dues, journal and advertising	81,924	—	—	—	81,924	103,772
Other funds	137,666	—	—	234,759	372,425	483,921
Other	228,906	10,580	—	—	239,486	54,590
The Med-Chi Agency, Inc.	98,969	—	—	—	98,969	64,344
Prepaid expenses	12,305	—	—	—	12,305	6,877
	5,115,984	909,374	9,708	1,912,303	7,947,369	7,492,586
Marketable securities	—	2,062,006	—	—	2,062,006	1,959,237
Investment—The Med-Chi Agency, Inc.	102,859	—	—	—	102,859	248,039
Fixed Assets						
Land, buildings and improvements	—	—	2,982,979	—	2,982,979	2,890,518
Other	86,958	—	383,940	—	470,898	373,719
	$5,305,801	$2,971,380	$3,376,627	$1,912,303	$13,566,111	$12,964,099
Liabilities and Fund Balances						
Current						
Accounts Payable						
Trade	$ 26,200	$ —	$ —	$1,398,578	$ 1,424,778	$ 1,111,810
Other funds	234,759	128,138	9,528	—	372,425	311,352
Other	—	—	—	—	—	52,782
The Med-Chi Agency, Inc.	—	—	—	28,886	28,886	103,632
Component societies	1,417,292	—	—	—	1,417,292	1,117,097
Payroll taxes	9,258	—	—	—	9,258	6,125
Accrued expenses	11,465	246	—	—	11,711	77,435
Grants payable	—	—	—	—	—	71,313
Deferred income	975,673	—	—	—	975,673	830,901
Deferred compensation	—	287,100	—	—	287,100	319,947
	2,674,647	415,484	9,528	1,427,464	4,527,123	4,002,394
Fund Balances						
Invested in fixed assets	—	—	3,366,919	—	3,366,919	3,187,541
Designated						
Legal fund	87,425	—	—	—	87,425	92,245
Educational purpose	52,252	—	—	—	52,252	30,823
Other	2,971	—	—	—	2,971	5,181
Undesignated	2,488,506	2,555,896	180	484,839	5,529,421	5,645,915
	2,631,154	2,555,896	3,367,099	484,839	9,038,988	8,961,705
	$5,305,801	$2,971,380	$3,376,627	$1,912,303	$13,566,111	$12,964,099

The accompanying notes to financial statements are an integral part of this statement.

Exhibit B

Statement of Income, Expenditures and Transfers, General Fund (Undesignated)

	For Years Ended December 31, 1988	For Years Ended December 31, 1987
Income		
Dues	$1,170,364	$1,169,964
Rents and services	64,982	22,465
Meetings	184,505	76,340
Journal advertising and subscriptions	117,894	152,189
Interest	193,409	185,149
Miscellaneous	310,379	236,943
Equity interest in the Med-Chi Agency, Inc.	154,821	268,734
	2,196,354	2,111,784
Expenditures		
Operating expenses	2,417,565	2,073,721
Excess (deficit) of income over expenditures	(221,211)	38,063
Transfers to plant fund	119,306	—
Excess (deficit) of income over expenditures and transfers	$(340,517)	$ 38,063

The accompanying notes to financial statements are an integral part of this statement.

Exhibit C

Statement of Income and Expenditures, Med Chi Insurance Fund

	For Years Ended December 31, 1988	December 31, 1987
Income		
Administrative fees	$ 55,517	$ 46,811
Interest	157,957	99,152
	213,474	145,963
Expenditures		
Administrative services	36,762	27,387
Postage, printing and supplies	49	33
Rent	960	960
Telephone	200	200
Professional fees	—	750
Contributions	27,000	100,000
	64,971	128,580
Excess (Deficit) of income over expenditures	$148,503	$ 17,383

The accompanying notes to financial statements are an integral part of this statement.

Exhibit D

Statement of Changes in Fund Balances for Year Ended December 31, 1988

	Additions						Deductions		
	Balance January 1, 1988	Excess (deficit) of Income over Expenditures and Transfers	Investment Income	Interest on Savings Accounts	Other Income and Contributions Received	Gain on Sale of Securities	Transfers In (Out)	Expenditures	Balance December 31, 1988
General Fund									
Designated	$ 128,249	$ —	$ —	$ —	$28,253	$ —	$ —	$ 13,854	$ 142,648
Undesignated	2,829,023	(221,211)	—	—	—	—	(119,306)	—	2,488,506
Endowment and Special Funds	2,480,556	—	154,272	1,325	10,294	81,793	(60,072)	112,272	2,555,896
Plant Fund	3,187,541	—	—	180	—	—	179,378	—	3,367,099
Med-Chi Insurance Fund	336,336	148,503	—	—	—	—	—	—	484,839
	$8,961,705	$ (72,708)	$154,272	$1,505	$38,547	$ 81,793	$ —	$126,126	$9,038,988

For Year Ended December 31, 1987

	Additions						Deductions		
	Balance January 1, 1987	Excess of Income Over Expenditures and Transfers	Investment Income	Interest on Savings Accounts	Other Income and Contributions Received	Gain on Sale of Securities	Transfers In (Out)	Expenditures	Balance December 31, 1987
General Fund									
Designated	$ 123,610	$ —	$ —	$ —	$ 4,639	$ —	$ —	$ —	$ 128,249
Undesignated	2,790,960	38,063	—	—	—	—	—	—	2,829,023
Endowment and Special Funds	2,310,730	—	128,662	—	—	165,893	—	124,729	2,480,556
Plant Fund	2,991,520	—	—	—	—	—	196,021	—	3,187,541
Med-Chi Insurance Fund	318,954	17,382	—	—	—	—	—	—	336,336
	$8,535,774	$ 55,445	$128,662	$ —	$ 4,639	$165,893	$196,021	$124,729	$8,961,705

The accompanying notes to financial statements are an integral part of this statement.

Notes to Financial Statements, December 31, 1988

Note 1—Summary of Significant Accounting Policies

The Medical and Chirurgical Faculty of the State of Maryland is a nonprofit organization, tax exempt under Section 501 of the Internal Revenue Code.

Marketable securities are carried at cost. Market values at December 31, 1988 and 1987 were $2,376,946 and $2,200,654, respectively.

The Faculty carries its investment in the 100% owned The Med Chi Agency, Inc. at equity. The net assets of the corporation as of December 31, 1988 and 1987 were as follows:

	1988	1987
Current assets	$284,076	$329,541
Fixed assets—net	17,682	13,470
	301,758	343,011
Current liabilities	198,899	94,972
	$102,859	$248,039

Fixed assets of the plant fund, other than personal property, are recorded at cost. Portraits were appraised as of December 31, 1963 at $65,000 an increase of $51,000 over prior years. All other personal property was appraised as of December 31, 1949. Depreciation on fixed assets is not provided. A schedule of fixed assets follows:

	1988	1987
Real Estate		
1209–1215 Cathedral Street		
Land and building	$ 110,636	$ 110,636
Improvements	543,035	543,035
1205–1207 Cathedral Street and 1204 Maryland Avenue		
Land and buildings	2,134,752	1,971,855
Improvements	188,296	188,296
224 Main Street, Annapolis		
Land and building	6,260	—
	2,982,979	2,813,822
Other		
Library books, journals	231,370	231,370
Office and library—fixtures, antiques and museum pieces	87,570	77,349
Portraits—appraised value	65,000	650,000
	383,940	187,719
	$3,366,919	$3,187,541

Fixed assets of the general fund are recorded at cost and depreciated using the straight-line method over their estimated useful lives for assets acquired prior to 1981, using the accelerated cost recovery system for assets acquired after 1980 and the modified accelerated cost recovery system for those acquired after 1986.

	December 31, 1988	December 31, 1987	Life in Years
Automobiles	$ 32,000	$ 32,000	3
Office equipment and furniture	290,282	231,435	5–10
Total cost	322,282	263,435	
Less—accumulated depreciation	235,324	186,739	
	$ 86,958	$ 76,696	

Provision for depreciation charged to operations for the years ended December 31, 1988 and 1987 was $48,585 and $51,714, respectively.

Note 2—Pension Plan

The Faculty has a noncontributory pension plan covering substantially all its employees. Pension contributions for the current year and prior year were $91,832 and $61,295 respectively, which includes amortization of prior service cost over 20 years. The Faculty's policy is to fund pension costs accrued. Actuarially determined pension costs are funded on an annual basis by the Frozen Initial Liability method with initial accrued liabilities computed under the Entry Age Normal Cost method. A comparison of accumulated plan benefits and plan net assets for the Faculty is presented below:

	1988	1987
Actuarial Present Value of Accumulated Plan Benefits		
Vested	$662,369	$730,298
Nonvested	103,199	121,276
	$765,568	$851,574
Net assets available for benefits	$897,015	$941,334

The assumed rate of return used in determining the actuarial present value of accumulated plan benefits was 6.5% for both 1988 and 1987. The fund's assets as of April 1, 1988 and April 1, 1987 exceeded the vested benefits by $234,646 and $211,036, respectively.

Note 3—Related Parties

The Medical and Chirurgical Faculty of the State of Maryland owns the stock of the Med-Chi Agency, Inc. The Faculty leases office space to the Agency under a month-to-month lease. Lease payments from the Agency were $18,246 and $14,003 for 1988 and 1987, respectively. Additionally, the Faculty performed certain management and accounting services for the Agency; income for these services was $105,000 in 1988 and $100,000 in 1987.

Proposed Budget: Estimated Income 1989

	Budget 1988	Projected Actual Thru Dec. 31, 1988	Budget 1989
Membership Dues	$1,170,000	$ 1,175,000	$1,305,000
Investment Income	500,000	500,000	500,000
Maryland Medical Journal	170,000	116,000	142,000
Annual & Semiannual Mtgs.	80,000	185,000	125,000
Administrative Services	20,000	120,000	120,000
Transfer From Other Funds			93,000
Other Income	50,000	56,500	110,000
Total Income	$2,090,000	$2,152,500	$2,395,000

Proposed Budget: Estimated Expenditures 1989

	Budget 1988	Projected Actual Dec. 31, 1988	Budget 1989
Auditing	$ 7,200	$ 7,200	$ 8,000
Legal	7,000	7,721	8,000
Contributions	1,000	-	-
Gas/Electricity/Water	55,000	59,000	60,000
Telephone & Telegraph	35,000	38,570	40,000
Postage	55,000	54,500	55,000
Household/Janitorial	10,000	14,150	14,500
Property Maintenance	10,000	17,000	20,000
Insurance	30,000	30,000	30,000
New Equipment	6,000	7,900	3,400
Equipment Maintenance	4,000	1,500	3,200
Stationery & Supplies	23,000	22,700	23,000
Salaries	1,094,700	1,075,916	1,196,000
Social Security	75,000	73,569	82,500
Unemployment Compensation	6,000	4,000	4,000
Employees'Insurance Prog.	70,000	91,160	93,000
Employees' Pension	85,000	91,000	95,000
Supplementary Hours	10,000	12,000	12,000
Travel	80,000	102,000	131,900
Printing	25,000	11,000	15,000A
Data Processing	10,000	10,000	10,000
Government Relations	50,000	85,000	85,000
Library	20,000	20,000	-
Maryland Medical Journal	150,000	118,000	120,000B
Annual/Semiannual Mtgs.	105,000	211,100	123,000
Presidential Fund	30,000	27,500	30,000C
Auxiliary	1,000	3,500	1,000
Miscellaneous	20,000	36,938	37,000
Depreciation	60,000	70,000	80,000
Communications	5,000	14,127	5,000
Total Expenses	$ 2,139,900	$ 2,317,051	$2,385,500

A. Travel: Includes attendance at the following meetings:
Six delegates, six alternates, President, President-elect, and staff to attend.
1. AMA Annual Meeting - Chicago, June
2. AMA Interim Meeting - Hawaii, December

President, President-elect, Council Chairman to attend AMA Leadership Conference, Chicago.

President attends neighboring medical societies:Delaware, Pennsylvania, Virginia, West Virginia, New Jersey, and District of Columbia.

Chief Executive Officers - AAMSE meeting, Georgia AAMSE Annual Conference, California

Officers and staff travel throughout the state for various component society meetings, other official business in the state, and regional and national meetings as determined on an individual basis..

B. Library: The cost of supplics, travel, memberships, copying, and other office expenses will be paid from Library earnings. Library salaries and benefits are included in the Salary and Employee Benefits items. Journal subscriptions, books, and book maintenance are paid from special designated funds.

C. Annual & Semiannual Meeting: New expenditure items of over $5,000 for these meetings (exclusive of pass-through items) to be approved by the Executive Committee or Council. Arrangements and costs for Presidential Banquet and other social events to be cleared by Executive Director.

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1. Data on file, Lilly Research Laboratories.

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Brief Summary

Consult the package literature for complete information.

Indications and Usage: Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer. In most patients, the ulcer will heal within four weeks.

Axid is indicated for maintenance therapy for duodenal ulcer patients at a reduced dosage of 150 mg h.s. after healing of an active duodenal ulcer. The consequences of continuous therapy with Axid for longer than one year are not known.

Contraindication: Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other H_2-receptor antagonists.

Precautions: *General* — 1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency.

3. Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepabc dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests — False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

Drug Interactions — No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility — A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice; although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy — Teratogenic Effects — Pregnancy Category C — Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizabdine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers — Studies conducted in lactating women have shown that <0.1% of the administered oral dose of nizatidine is secreted in human milk in proportion to plasma concentrations. Caution should be exercised when administering nizatidine to a nursing mother.

Pediatric Use — Safety and effectiveness in children have not been established.

Use in Elderly Patients — Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Oomestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among reported adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs < 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine.

Hepatic — Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients and was possibly or probably related to nizabdine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L) and, in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three bimes the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular — In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

CNS — Rare cases of reversible mental confusion have been reported.

Endocrine — Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hypersensitivity — As with other H_2-receptor antagonists, rare cases of anaphylaxis following administration of nizatidine have been reported. Because cross-sensitivity in this class of compounds has been observed, H_2-receptor antagonists should not be administered to individuals with a history of previous hypersensitivity to these agents. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Hematologic — Fatal thrombocytopenia was reported in a pabent who was treated with Axid and another H_2-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental — Sweating and urticaria were reported significantly more frequently in nizabdine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Other — Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizabdine administrabon have been reported.

Overdosage: Overdoses of Axid have been reported rarely. The following is provided to serve as a guide should such an overdose be encountered.

Signs and Symptoms — There is little clinical experience with overdosage of Axid in humans. Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous median lethal doses in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

Treatment — To obtain up-to-date information about the treatment of overdose, a good resource is your certified regional Poison Control Center. Telephone numbers of certified poison control centers are listed in the *Physicians' Desk Reference (PDR)*. In managing overdosage, consider the possibility of multiple drug overdoses, interaction among drugs, and unusual drug kinetics in your patient.

If overdosage occurs, use ot acbvated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance.

PV 2096 AMP [013089]

Additional information available to the profession on request.

Henry P. Laughlin MD, Frederick, recently was honored in Kentucky by the faculty of the University of Louisville School of Medicine. Dr. Laughlin has served the University as their Distinguished Visiting Professor of Psychiatry and the Behavioral Sciences since July 1974. At the beginning of the Medical School's Grand Rounds the Departmental Chairman Professor John J. Schwab MD assisted by former Chairman and World War II US Navy colleague William K. Keller MD formally conferred upon Dr. Laughlin an official plaque of commendation inscribed to *Henry P. Laughlin MD, in respect for your many National Achievements and in grateful appreciation for your 15 years of service to the Department of Psychiatry and Behavioral Sciences, University of Louisville School of Medicine, 1974-1989.*

* * *

Ira T. Fine MD, Baltimore, recently was appointed Chief of Rheumatology at Sinai Hospital. Dr. Fine received his training in Internal Medicine at the University of Maryland in Baltimore and subsequently received Fellowship training in rheumatology at The Johns Hopkins Hospital. Upon completion of his Fellowship he served as Chief Resident in Internal Medicine at University of Maryland Hospital. An instructor in medicine at The Johns Hopkins School of Medicine, Dr. Fine plays an active role in the teaching programs at both Sinai and The Johns Hopkins Hospital.

* * *

On July 1, *Leon E. Kassel* MD, Baltimore, was named Interim Physician in Chief at Sinai Hospital. He will also head the Division of General Internal Medicine.

Past-president of Med Chi (1987-1988) and former President of the Baltimore City Medical Society, Dr. Kassel served on the Maryland Commission on Medical Discipline, on the Governing Council of the Central Maryland Health Systems Agency, and as Chairman of the Board of Directors of the Maryland Foundation for Health Care, the initial PRO for the state of Maryland.

After graduation from the University of Virginia Medical School, Dr. Kassel has practiced in Baltimore (with the exception of two years in the US Air Force) and is Associate Chief of the Deparment of Medicine, Director of the Ambulatory Medicine Program at Sinai, as well as in the private practice of Internal Medicine. Additionally, he is an assistant professor in the Department of Epidemiology and Preventive Medicine at the University of Maryland Medical School and an instructor in Medicine at The Johns Hopkins School of Medicine.

G. Lee Russo MD, Baltimore, has been elected president of the medical staff at Mercy Medical Center. Dr. Russo, who maintains a private practice in neurosurgery, is a graduate of the University of Maryland School of Medicine. He conducted his internship at Mercy Medical Center and his residency in neurosurgery at University Hospital.

* * *

Maryland Orthopedic Society

John Kensora MD, Chief of the Division of Orthopedic Surgery at the University of Maryland Hospital, has been elected president of the Maryland Orthopedic Society for 1989-1990. President-elect is *Stuart Winakur MD*, and the secretary-treasurer (elected for a two-year term) is *George Brouillet MD*; both are in the private practice of orthopedic surgery.

* * *

Montgomery County Medical Society

Cheryl E. Winchell MD, a Gaithersburg family practitioner, has assumed the presidency of the 1,400-member Montgomery County Medical Society. After graduation from the Case Western reserve School of Medicine, an internship at the University of Virginia, and a residency at Grady Memorial Hospital in Atlanta, Dr. Winchell came to the Washington metropolitan area to begin her private practice in family medicine.

No newcomer to medical leadership, Dr. Winchell undertakes the highest office in the MCMS after completing a two-year term as Chief of Staff of Shady Grove Adventist Hospital. In addition to her busy practice, she provides medical care to the homeless at the Gude Drive Men's Shelter.

Other medical society officers are *Jeffrey F. Witte MD*, president-elect; *Lawrence H. Fink MD*, immediate - past-president; *Peter B. Sherer MD*, vice-presdient; *Ronald J. Orleans MD*, secretary; and *William W. Mullins, Jr., MD*, Treasurer. ■



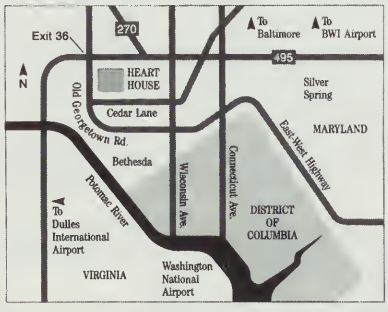
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The American College of Cardiology has been providing continuing medical education to cardiovascular specialists for over 15 years. Attending programs at the Heart House Learning Center is a unique and convenient way of keeping abreast of the latest advances in cardiovascular medicine.

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The Classroom at Heart House is equipped with 69 Learning Center Chairs, each of which is fitted with a television monitor for viewing videotapes, slides and graphs; a computer response system for evaluating participants' progress; and a tape recorder jack for taping various aspects of the program. The Classroom itself houses, among other things, satellite transmission capability for experiencing actual procedures, as they happen, without leaving your individual learning station. The size of the Classroom affords you an exceptional opportunity to interact with the faculty as well as your fellow participants.

Heart House, the national headquarters of the American College of Cardiology, has been located in Bethesda, Maryland for over 10 years. Its proximity to the National Institutes of Health, the National Library of Medicine and downtown Washington, D.C. has proven to be very beneficial to those attending Learning Center programs.



For more information on the programs being offered at Heart House, please call the Learning Center at 1-800-253-4636 ext. 241 (in Maryland or outside the United States, 1-301-897-5400).

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Physician Placement Services

The Medical and Chirurgical Faculty of the State of Maryland maintains a Placement Service for the convenience of Maryland physicians, hospitals, and communities in search of candidates for positions available in our state. A detailed description of such opportunities should be forwarded to:

Physician Placement Service
1211 Cathedral St., Baltimore, MD 21201
(301-539-0872)

Physicians wishing to locate in Maryland are invited to submit a resume to be kept on file with the *Physician Placement Service*. Candidates are requested to inform the Faculty when they are no longer available for consideration for opportunities in Maryland.

MMJ announcements on the Classified Advertising page for Physician Placement Service are charged at the regular Classified Advertising rate.

The Johns Hopkins Medical Institutions

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

September 8-10 — **Diagnostic Ultrasound in Obstetrics and Gynecology and Abdomen.** Fee: $325 physicians (3 days), $250 nurses & sonographers (3 days); 6 AMA Cat I credits, ASRT credit, ACOG cognates pending. Info: D. Heydinger 301-955-2959.

September 11-13 — **Interventional Neuroradiology.** Fee: $550 physicians, $350 residents, fellows, and technicians (with letter from dept chairperson verifying status); 26.5 AMA Cat I credits. Info: F. Boling 301-955-2959.

September 21-11 — **Pediatrics for the Practitioner - Update 1989.** Fee: $225 physicians, $150 residents, retired physicians, and allied health professionals; 14.5 AMA Cat I credits. Info: J. Ryan 301-955-2959.

October 2-4 — **National Scientific Conference on Care of Alzheimer's Disease Patients and Families.** Fee: $50; 16 AMA Cat I credits, CEU for nurses and other appropriate credit pending. Info: F. Boling 301-955-2959.

October 11-12 — **Vernon B. Mountcastle Symposium - Neuroscience: Integrative Functions.** Fee: $50; 12 AMA Cat I credits. Info: 301-955-2959.

October 16-21 — **Thirty-first Annual Emil Novak Memorial Course: Gynecology, Gynecological Pathology, Endocrinology, and High-Risk Obstetrics.** Fee: $650 physicians, $450 residents and fellows; 44.5 AMA Cat I credits, 44 ACOG cognates. Info: C. Kearney 301-955-2959.

October 18-20 — **Industrial Hygiene Air Sampling for Safety Professionals.** Fee: $550, course limited to 30 participants. Info: J. Corn 3011-955-2609.

October 28 - November 2 — **The Second Annual Written Boards in Emergency Medicine: A Comprehensive Review**, Sheraton Towson Conference Hotel, Baltimore, sponsored by the Johns Hopkins Medical Institutions Department of Emergency Medicine. Fee: before 9/1/89, $575 physicians, $550 residents; AMA Cat I credits and other appropriate credit pending.

December 7-9 — **Second Annual Wilmer Institute Current Concepts in Ophthalmology.** Fee: $250, $200 (those in training); 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going one-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: Aug 7-11, Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA CAt I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in five bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

University of Maryland School of Medicine

CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.

September 15, 1989 — **Current Concepts in Ophthalmology: Ninth Annual Clinical Conference**, Hyatt Regency Baltimore. Fee: $60; 6 AMA Cat I credits.

September 19-20 — **Behavioral Pediatrics Conference**, UMAB MSSTF Auditorium. Fee and credits TBA.

September 21-23 — **Fifth Annual University of Maryland Contact Lens Symposium**, Sheraton Inner Harbor Hotel, Baltimore. Fee: $160; 12 AMA Cat I credits.

September 28 — **Dean's Conference #1**: UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25; AMA & AAFT credits available.

October 21 — **Ischemic Nitrates**, Stouffer Harbor Place Hotel, Baltimore. Fee and credits TBA.

October 26 — **Dean's Conference #2**: UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25; AMA & AAFT credits available.

November30 — **Dean's Conference #3**: UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinicain with current research and practice methods utilized at the University. Fee: $25; AMA & AAFT credits available.

Continuously Throughout the Year

University of Maryland Dean's Conferences - Held monthly, these conferences are designed for the Family/General practitioner and the internist. Each conference highlights a different clinical department, placing emphasis on the practical methods currently being used and researched at the University of Maryland. **Dates: October 26, November 30, and December 13, 1989; and January 25, February 22, March 22, and April 26, 1990.**

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Aug 17-18 - Provider
Sep 13-15 - Instructor
Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider

Miscellaneous Meetings

September 8-9, 1989 — **Current Controversies and Techniques in Congenital Heart Surgery**, sponsored by the Section of Thoracic and Cardiovascular Surgery of the University of Nebraska College of Medicine, Omaha. Precedes the Society of Thoracic Surgeons Annual Meeting in Baltimore. Info: T. Young 301-328-2399.

September 11-13 — **NIH Consensus Development Conference: Treatment of Destructive Behaviors in Persons with Developmental Disabilities**, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: B. McChesney 301-468-6555.

September 23 — **Psychiatry in the 90s - Anxiety: The Clinical Challenge**, 9 a.m.- 4 p.m., Washington Plaza Hotel, sponsored by the Washington Psychiatric Society. Fee: $50 students and residents, $75 others. Special room rates available. Info: Washington Psychaitric Society 202-682-6270.

October 13 — **First Annual Trauma Conference - Peninsula General Hospital Medical Center**; Sheraton, Salisbury, MD. Fee: $80; 8 AMA Cat I credits. Info: D. Kwiatkowski 301-543-7328.

October 18-19 — **Legal Medicine for Health Care Providers**, Holiday Inn of Bethesda. Info: American Registry of Pathology, Armed Forces Insitute of Pathology, Washington, DC 20306-6000 (202-576-2978/2980). ■

License Registration Renewal

Physicians whose surnames begin with the initials **M through Z** must renew their license registrations in September. The Board of Physician Quality Assurance began mailing renewal information in the middle of July.

Physicians who have not received the renewal information by the second week in August should contact the Board to get the information necessary for renewals before **their licenses expire on September 30, 1989.** Those who have not renewed their license by that date will not have a current license, and their license must be renewed before they may resume practicing in Maryland.

It is the physicians' responsibility, by law, to communicate with the Board of Physician Quality Assurance concerning renewal of their licenses if, for some reason, they do not receive the renewal application.

Physicians may contact the Board by writing to

PO Box 2571, Baltimore, MD 21215-0002
or by calling 301-764-4777

William H. Dorrill, Executive Director
Board of Physician Quality Assurance

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(ENALAPRIL MALEATE | MSD)

Contraindications: VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See DOSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions*.)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy—Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies in pregnant women. VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: Milk in lactating rats contains radioactivity following administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 298 / patients.

Hypertension: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

Heart Failure: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION), prostate hypertrophy.

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% ot patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions*.)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose of enalapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine of up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum ot 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions*.) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range tor the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinicat Effects*.) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart failure patients with hyponatremia (serum sodium <130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions*.) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

For more detailed information, consult your MSD representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486. J6VS18R(815)

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Maryland Medical Journal

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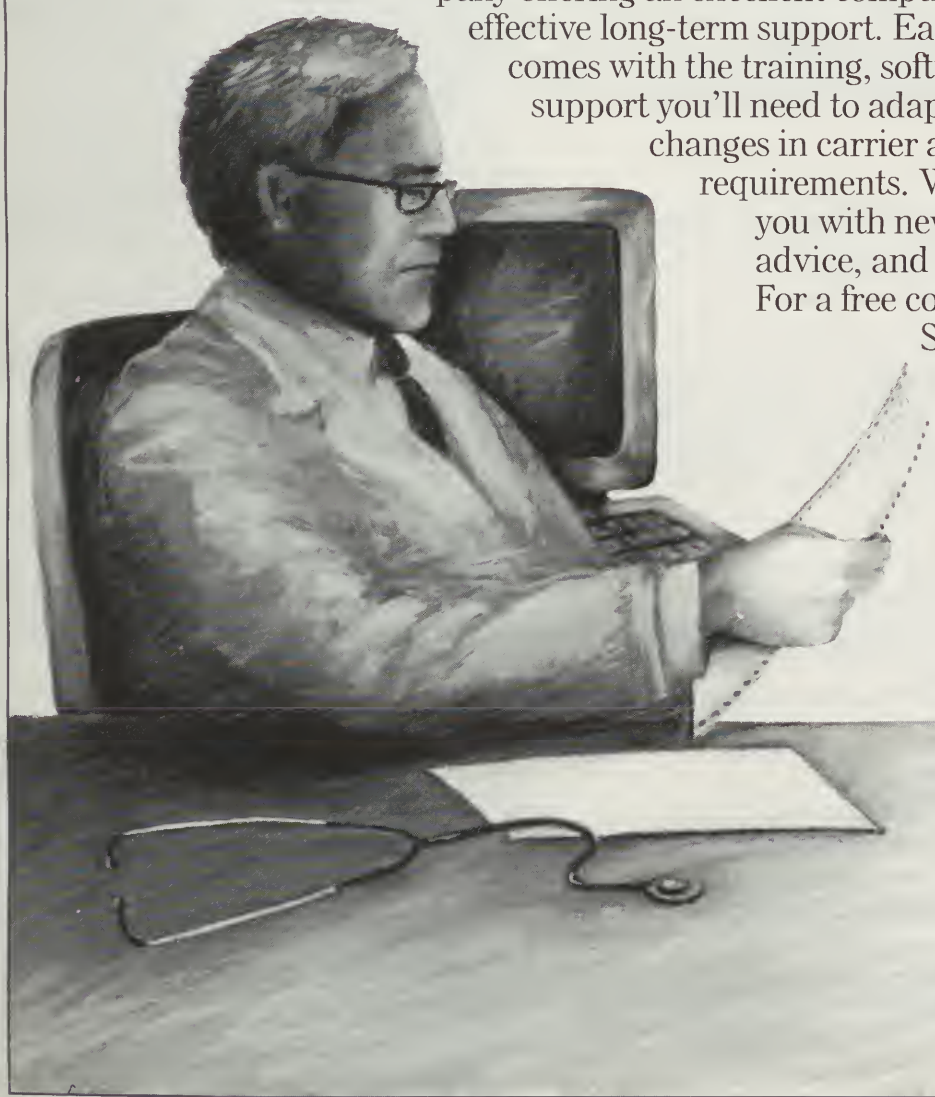
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MMJ
Maryland Medical Journal

SEPTEMBER 1989 VOLUME 38, NO 9

ARTICLES

Women and Organized Medicine: A Call for Action 720
Just as women have assumed the responsibilities of their role in care of patients, they must also contribute to shaping the role of the physician and the future of medicine.

Hospitalized Head-Injured Patients in Maryland: Incidence and Severity of Injuries 725
Ellen J. MacKenzie PhD, Sharon L. Edelstein ScM, and James P. Flynn MD, MPH
Hospital discharge data collected from all acute care hospitals in Maryland were used to examine severity-specific rates of hospitalized head injuries in 1986. Evidence that the rate of hospitalization for head injury may be increasing underscores the importance of head injury as a major public health problem in Maryland.

Case Report: An Unusual Vibrio Infection 735
John B. MacGibbon MD
Nonclassical vibrio infections are being better diagnosed; many of the newer vibrio infections are being better recognized because of more selective culture methods. These infections pose a risk to individuals who play and work in warm coastal waters as well as to those who eat raw or partially cooked seafood.

A Transient Granulocyte Killing Defect Secondary to a Varicella Infection 739
Carol A. Blank MD, James E. Nagel MD, William H. Adler MD, and Fred J. Heldrich MD
A varicella infection in a previously healthy young girl was complicated by bacterial sepsis, arthritis, and osteomyelitis in multiple locations. The mechanism responsible for secondary bacterial infections following varicella may be due to transient defects in granulocyte function.

Cardiac Transplantation in a Regional Center: Goals and Results at Two Years 745
Nelson A. Burton MD; Edward A. Lefrak MD; John A. Miller MD; Linda Ohler RN, MSN; and Mary Beth Foehring RN
Cardiac transplantation moved from the realm of an investigational procedure to a therapeutic modality in the early 1980s. Close follow-up is required to monitor for rejection, infection, and other late complications. Improved patient access to the transplantation center allows enhanced care by the original transplant team.

Case Report: Hepatic Actinomycosis 751
Neil D. Goldberg MD, William C. Anthony MD, Michael C. Yen MD, and Shoab Hashmi MD
Primary hepatic actinomycosis is seldom seen. Treatment with high-dose parental penicillin for prolonged periods is recommended. Concomitant surgical drainage has been recommended, but the nonoperative success reported suggests surgical drainage is not essential to the treatment.

Cover: Below the plate of sushi is a photo of Pseudoterranova *and* Anisaki *larvae and a scanning electron micrograph of third-stage larva of* Anisakid simplex *(reproduced with permission from* Clinical Microbiology Review *1989;2: 280-281). Article reporting an unusual vibrio infection begins on page 735.*

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Information for Authors

Manuscripts may be sent to Editor, *MMJ*, 1211 Cathedral St., Baltimore, MD 21201. Articles are accepted for publication on the condition that they are contributed solely to this journal. Transmittal letters should designate one author as correspondent and include his/her address and telephone number. Manuscripts are reviewed by editorial board members and guest reviewers.

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Manuscripts must be original typed copy, double spaced throughout (including text, case reports, legends, tables, and references) with pages numbered consecutively. Along with manuscripts, please send an IBM-compatible floppy disk, with the document entered in a Word Perfect, Multimate, or Wordstar program. At your request, *MMJ* will return your disk after your article is published or if the manuscript is not accepted.

Include full name of author(s) with highest degree, academic and professional titles, affiliations, and any institutional or other credits.

Tables with brief descriptive titles are to be typed on separate sheets of paper and numbered. The Editor reserves the right to edit tables. Statistics must be consistent in both tables and text.

References are limited to those citations noted in the text and are to be typed double spaced and numbered consecutively as they appear in text. The number of references generally is limited to 20 in major contributions and fewer in shorter articles. Personal communications and unpublished data should not be included.

Photographic material must be submitted as high-contrast glossy prints. Drawings and graphs must be of professional quality. Four or fewer illustrations should be adequate for a manuscript of 4 or 5 typed pages. Recognizable photos of patients are to be masked and should carry with them written permission for publication.

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SEPTEMBER 1989
Selected Communicable Diseases in Maryland in 1988 (Concluded)

ROCKY MOUNTAIN SPOTTED FEVER (26)

0.6/100,000 (U.S. - 0.3/100,000)

Rocky Mountain spotted fever cases were reported from 13 counties, with Caroline County reporting the highest number of cases (5). Three cases each were reported from Talbot, Queen Anne's, and Harford counties, 2 cases each from Dorchester and Washington counties, and a single case was reported in Baltimore City, Baltimore, Cecil, Howard, Montgomery, Prince George's and St. Mary's counties. All cases had onset of illness between April and October (Figure 7).

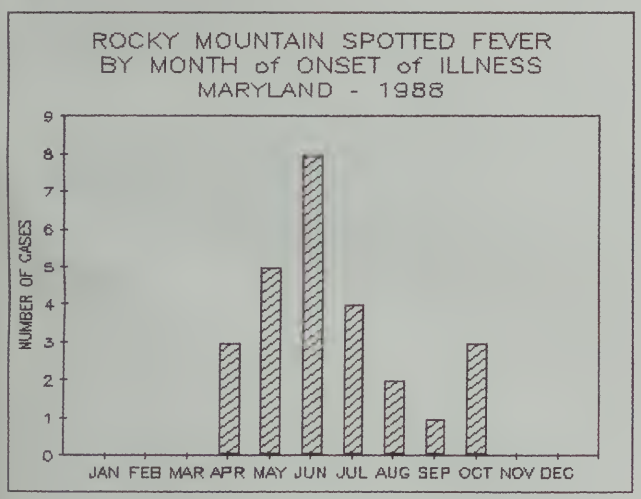


Figure 7

The male to female ratio was 1:1. The age range was 4 to 74 years, (mean 30.5 years). Twenty-three (88.5%) were white.

Nearly all patients had fever (84.6%), headache (76.9%) or rash (73%), although only 9 (34%) had a rash on the soles or palms. Eighteen (69.2%) cases were reported to have been hospitalized. Eighteen (69.2%) cases had a tick bite within 14 days of onset of illness, 6 (23.1%) had been in a known tick-infested area, and 2 (8.7%) reported no known exposure to ticks.

Twenty one (80.8%)cases were confirmed with laboratory results, 1 case was considered a probable case, and 4 were not confirmed.

Treatment included tetracycline or chloramphenicol in 22 of the 25 cases for which treatment information was provided. One case received no treatment. One patient died within 24 hours of hospitalization; all other reported cases made a good recovery.

RUBELLA (2)

0.04/100,000 (U.S. - 0.09/100,000)

Two cases of serologically - confirmed rubella were reported in 1988. One of the reported cases was an 18 month old infant, whose MMR vaccination had been deferred 3 months earlier due to illness; the other patient was a 32 year old male. In both cases the source of infection was not identified. No pregnant, susceptible women were known to have been exposed to the patients.

SALMONELLOSIS (1617)

35.3/100,000 (U.S. - N.A.)

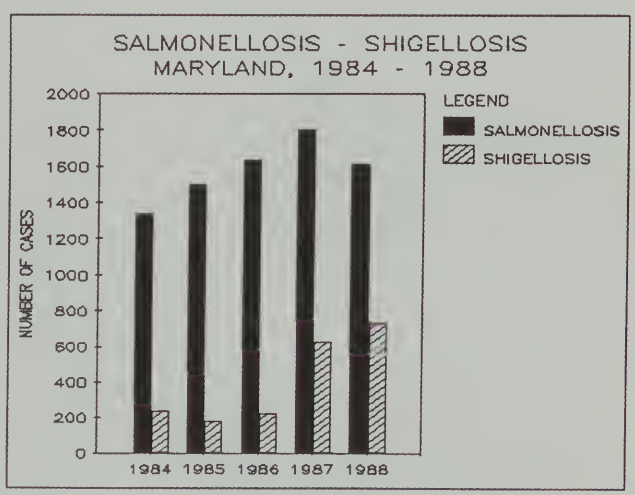


Figure 8

Figure 8 shows the number of cases of salmonellosis reported in Maryland over the past five years. More than half (51.2%) of the cases in 1988 had onset in June through September, the peak month for salmonellosis was August with 288 (17.8%) cases. One-third (33.0%) of the cases were less than 5 years of age, including 18.1% who were younger than 1 year (the group

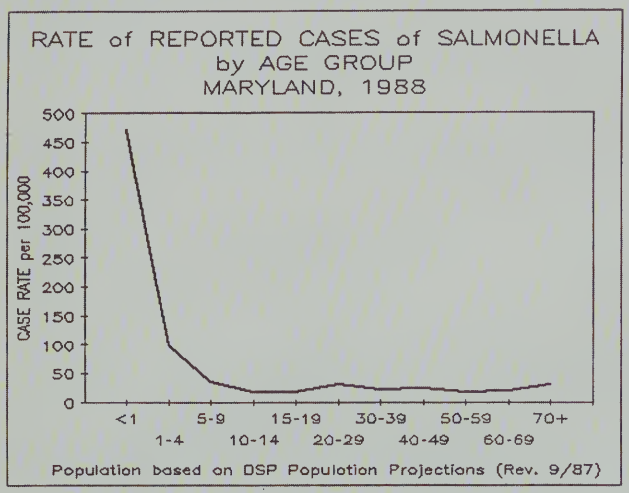


Figure 9

with the highest incidence rate, 469.8/100,000) (Figure 9). An additional 24.6% were between 20 and 39 years old .

Twenty one salmonellosis outbreaks (involving 436 persons) occurred in June through December, in Baltimore City, Baltimore, Cecil, Charles, Harford, Montgomery and Prince George's counties. Eight outbreaks were foodborne. Others involved 3 child care centers, 3

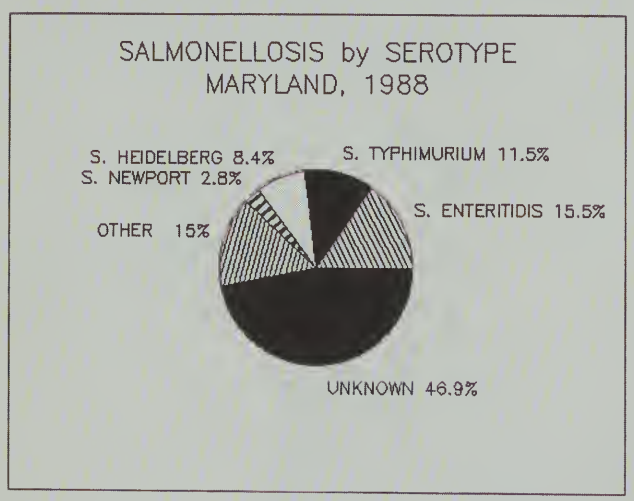


Figure 10

nursing homes, 2 hospitals or health care facilities, and 5 other establishments.

Serotypes of reported isolates are depicted in Figure 10.

SHIGELLOSIS (736)

16/100,000 (U.S. - N.A.)

There has been a dramatic rise in the number of shigellosis cases reported over the past two years (Figure 8). The peak month of onset for shigellosis was May with 94 (12.8%) cases, most cases occurred between January and August (median, 79 cases per month). During 1988, in addition to a higher background rate of shigellosis, 7 outbreaks occurred in Baltimore City, Anne Arundel, Baltimore, Montgomery and Washington counties, with a total of 48 cases; 3 involved food services, 2 involved child care centers and 1 involved a health care facility.

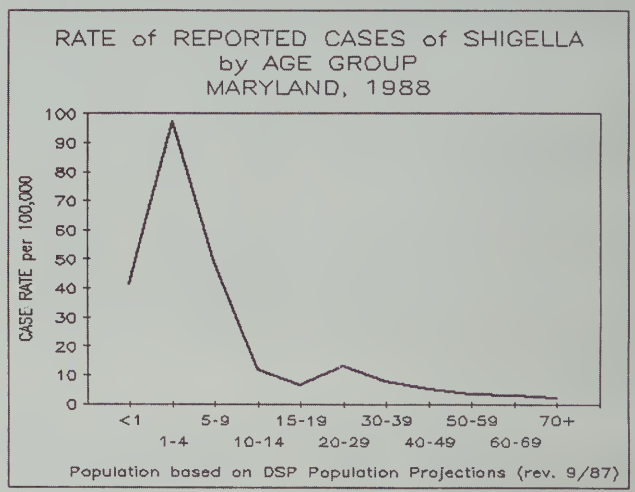


Figure 11

The age distribution of the cases was as follows: 26 (3.6%) were less than 1 year of age, 239 (32.9%) were 1 to 4, 133 (18.3%) were 5 to 9, 58 (8.0%) were 10 to 19 years of age, 222 (30.5%) were adults, and the age of 49 (6.7%) was unknown. Case rates by age are shown in Figure 11.

SYPHILIS (689)

15.0/100,000 (U.S. - 16.5/100,000)

For the calendar year ending December 31, 1988, reported cases of primary and secondary (P&S) syphilis continued the escalating trend described in 1987 (Figure 12). There was an

overall increase for the State of Maryland of 16.0%. While the number of cases reported in Baltimore City decreased by 17.9%, the other jurisdictions in the State reported an increase of 66.7%. P&S syphilis cases in Prince George's County alone rose by 118.0%. In 1987, it was recognized that these syphilis rates are affecting the young, heterosexual, urban population and this problem has persisted in 1988. Unfortunately, as these trends continue and young women of childbearing age become infected, the predicted increases in congenital syphilis follow. There were two cases of congenital syphilis reported in 1987 as compared

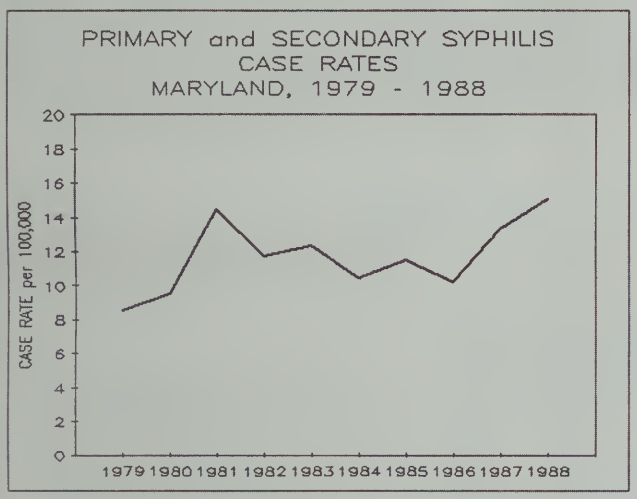


Figure 12

with seven cases reported in 1988. (N.B. Between January and June 1989, 8 confirmed cases of congenital syphilis have been reported.)

Further, as reported last year, diseases that cause skin lesions, such as syphilis, have been implicated as facilitating transmission of human immunodeficiency virus (HIV) infection. In Maryland STD clinics, 20 % of syphilis patients are coinfected with HIV. As a result of the increases in P&S syphilis, young, heterosexual men and women who live in urban areas are likely to be at greater risk for infection with HIV.

TETANUS (1)

0.02/100,000 (U.S. - 0.02/100,000)

The one reported case of tetanus was a 29 year old woman, who developed trismus 10 days after injury to her leg. With treatment with tetanus immune globulin (TIG), she recovered fully within 3 weeks. The patient's history of primary tetanus vaccination was unknown, but she had had one dose of tetanus toxoid in 1986 after an injury.

TUBERCULOSIS (466)

10.17/100,000 (U.S. - 9.3/100,000)

In 1988, Maryland reported 466 cases of tuberculosis. This represents an increase of 8.9% over 1987 (Figure 13). Six counties (Caroline, Dorchester, Montgomery, Somerset, Prince George's, Somerset, and Wicomico) and Baltimore City reported case rates above the national rate.

In Baltimore City only 5.8% of the cases were foreign born, however, in the remainder of the state, 37.5% of cases were foreign born (with a high of 67% of Montgomery County's 85 cases foreign born).

A match of the TB and AIDS registries from 1978-1988 disclosed 43 persons with both diagnoses (1.16% of 3695 TB cases had AIDS, and 2.77 % of 1552 AIDS cases had TB).

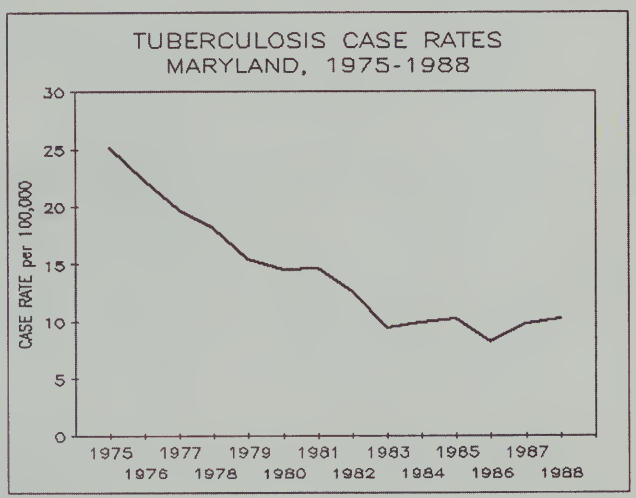


Figure 13

TYPHOID FEVER (6)

0.1/100,000 (U.S. - 0.2/100,000)

The six patients with typhoid fever were exposed in India (2), Pakistan (1), Bolivia (1), and El Salvador (1). The source of infection for one person was his Salvadorian wife who was a carrier of *S. typhi*.

Outbreaks of Diseases Reported in Maryland, 1988

Disease	Setting of Occurrence or Transmission							
	Day Care	Food Srvc.	Hosp	Insti-tution	Nurs. Home	School	Other	Total
Chickenpox	1	0	1	0	0	1	1	4
Hepatitis A	2	3	0	0	0	1	6	12
Influenza, Conf. or Suspect	0	0	0	2	63	0	0	65
Rotavirus	0	0	4	0	0	0	0	4
Salmonella	3	8	1	1	3	0	5	21
Scabies	0	0	2	0	4	0	0	6
Shigella	2	3	0	1	0	0	2	8
Gastroenteritis viral, chemical, or undetermined	1	19	1	1	29	1	11	63
Other (See text)	1	6	5	3	9	6	11	41
Total	10	39	14	8	108	9	36	224

Table 2

OUTBREAKS OF DISEASES (224)

Outbreaks of diseases are reportable under Code of Maryland Regulations. During 1988, 224 outbreaks were reported to health departments in Maryland. Table 2 depicts the reported outbreaks by disease and setting.

Influenza outbreaks are commonly reported from nursing homes and institutions and occur during the period December through April. Outbreaks of non-bacterial gastroenteritis also sweep through the state's nursing homes during the same time of year. In a few outbreaks we obtained serum or stool specimens for viral identification, and have documented Norwalk or Norwalk-like agents as the etiology.

Foodborne gastroenteritis outbreaks caused by *Salmonella* most commonly occur during the warm summer months.

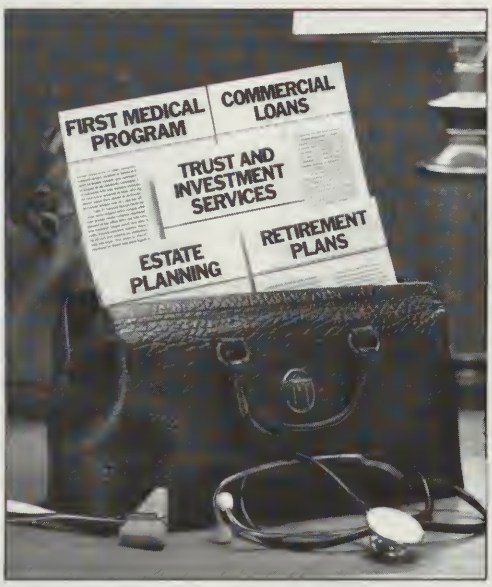
The 41 outbreaks listed in Table 2 as "Other" include outbreaks of, or outbreaks caused by, respiratory infections (4), conjunctivitis (2), *Bacillus cereus* (1), pertussis (1), botulism (2), *Clostridium perfringens* (1), *Campylobacter* (1), *E. coli* (1), giardiasis (2), Herpes simplex (1), *Legionella* (1), measles (3), mumps (2), mushroom intoxication (1), *Neisseria meningitidis* (1), parainfluenza (1), pediculosis (1), *Pseudomonas* (1), ringworm (1), scombroid intoxication (6), *Staph. aureus* (3), *Streptococcus* (2), *Vibrio parahemolyticus* (1), and multiple organisms (1).

New EIS Officer Comes to Maryland

Timothy Cote', MD, MPH, has been assigned by the Centers for Disease Control to be the Epidemic Intelligence Service (EIS) Officer for Maryland. Dr. Cote' received his undergraduate degree at Syracuse University in 1982. He attended Howard University College of Medicine (1982-87) and Harvard School of Public Health (1984-85), and received his MD and MPH degrees in 1987. After a Transitional Internship at Maryland General Hospital, he spent a year as a Preventive Medicine resident at the Illinois Department of Public Health in 1988-89.

We are pleased that he will be joining the staff of the Epidemiology and Disease Control Program for the next two years.

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Prince George's: 952-5600 / **Washington:** 790-6800

Highlights: Executive Committee and Council Actions

Council - April 12, 1989

Minutes - The Council minutes of Thursday, March 23, 1989, were approved as submitted.

Recognition - The Chair called on the President, Dr. Dobridge, who presented certificates of appreciation to the members of the Executive Committee. Dr. Dobridge also presented the Governor's Citation for Excellence to Dr. Emidio Bianco, Chairman of the Peer Review Committee, for his contribution in the development of the *Peer Review Handbook.*

Professional Ethics Committee - Council approved the following policy statements as presented by Dr. Louis Breschi, Chairman of the Professional Ethics Committee:

Revised Policy Statement on Discrimination

(a) In this section, "discrimination" means unfair prejudgment due to group identification or affiliation including, but not limited to, discrimination based on race, color, religion, creed, ethnic origin, a handicapping condition, sex, national origin, or sexual orientation.

(b) The Faculty endorses Principle 6 of the AMA's Principles of Medical Ethics. Principle 6 provides that "A physician shall, in the provision of appropriate patient care, except in emergencies be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services."

(c) However, the Faculty deplores discrimination, particularly within medical societies, component societies, and medical staffs.

(d) The Faculty also strongly deplores the selection of patients solely upon the basis of the patient's ability to pay. Examples of this category of patients are Medicare and Medicaid patients.

Revised Policy on Return-to-Work Statements

(a) Return-to-work statements may contain the diagnosis determined by the physician. It is suggested that physicians not indicate such diagnoses unless permission has been given by the patient.

(b) Return-to-work statements prepared by a physician can be, on occasion, signed by the physician's secretary or nurse on behalf of the physician, provided that permission has been given by the physician to his employee to do so for a particular patient or occurrence.

(c) Frequently, physicians complete absence from work statements in advance of the date the patient should return to work. Such a statement should contain the date of issuance and a specified date by which full recovery is anticipated.

Introductions - The Chair introduced Dr. James T. Clowe, Speaker of the AMA House of Delegates and speaker for the Plenary Session of the Faculty's annual meeting, and Dr. Louis Breschi, who recently became a member of the Council.

State Boards and Commissions - The Council approved the following nominees for the board/commissions indicated:

Advisory Board on Hospital Licensing
Zorayda Lee-Llacer MD, *Clinton* (CCM)
(incumbent) June 30, 1989, 5-year term

Commission on Hereditary and Congenital Disorders
Stephen S. Amato MD, *Baltimore* (PD)
June 30, 1989, 4-year term

Commission on High Blood Pressure & Cardiovascular Risk
Hilary T. O'Herlihy MD, *Glen Burnie* (CD,IM)
(incumbent) June 30, 1989, 4-year term

The above nominees will be submitted to the Governor's office for consideration of appointment.

Medicare Program - The Chairman introduced Dr. Barry Gold, the new Medical Director of the Blue Cross/Blue Shield Medicare Program, who offered to be of assistance to physicians and to answer any questions they may have relative to the program.

Mutual Fire Inland and Marine Malpractice Insurance Company - The Council received an update on the insolvency of Mutual Fire. Physician subscribers to Mutual Fire who may have a malpractice claim filed must rely on the terms of Mutual Fire's reorganization plan for payment of any malpractice claim. Med Chi is constrained in regard to any action on behalf of its members insured by Mutual Fire because of Med Chi's affiliation with the Med Chi Insurance Agency and restraint-of-trade considerations; however, Council was advised that Med Chi will keep its members apprised of the status of Mutual Fire's reorganization plan. In addition, on request, a list of Maryland physicians covered by Mutual Fire will be available to similarly situated Med Chi members.

Emeritus Membership - The Council approved the following physician for Emeritus membership at the request of the component indicated:

Richard A. Sindler MD, Towson, *Baltimore City*

Pro Monitoring - Dr. R. Lane Wroth, Medical Director of the Delmarva Foundation for Medical Care, Inc., presented the Health Care Financing Administration's mandated requirement for preadmission/preprocedure review. Discussion ensued regarding the manner in which the medical community was informed of this requirement, and several councilors indicated their displeasure with the way in which notification took place. Ms. Jean Murphy, Vice President for Contracts, Delmarva Foundation, indicated that notification was sent to several specialty societies prior to April 1, however. Dr. Wroth agreed to continue the relationship with the Med Chi PRO

Monitoring Committee and, in the future, such notification will be coordinated in a timely fashion.

Council - April 14, 1989

Introduction of New Members - The President, Dr. Raymond M. Atkins, called the names of the following new members of Council:

Dr. Alex Azar, *Wicomico County*
3rd Vice-President
Dr. Louis C. Breschi, *Baltimore County*
Dr. Bahram Erfan, *Prince George's County*
2nd Vice-President
Dr. A. H. Ghiladi, *Baltimore County*
Dr. Allan T. Leffler, II, *Howard County*
Dr. Hiroshi Nakazawa, *Baltimore City*
Daniel P. Paoli, *Student Component Society*

Those present were welcomed with applause by the Council.

Election of Chairman and Vice-Chairman - The President called for nominations from the floor for the position of Chairman. The name of Dr. J. David Nagel was placed in nomination, the nominations were declared closed, and Dr. Nagel was elected unanimously to the position of Chairman of Council.

Dr. Nagel presided as Chairman of Council and called for nominations from the floor for the position of Vice-Chairman. Dr. Hiroshi Nakazawa was nominated, the nominations were declared closed, and Dr. Hiroshi Nakazawa was elected unanimously to the position of Vice-Chairman of the Council.

Legislative Report - Gerry Evans presented an update on the activities of the 1989 Legislative Session.

Executive Committee - May 18, 1989

Executive Committee members welcomed Dr. Hiroshi Nakazawa, the newly elected Vice-Chairman of the Executive Committee and Council.

Chairman J. David Nagel MD announced there would be a memorial service for Dr. J. D. Drinkard, Past-President of Med Chi, on May 21, at 4:00 p.m. at the Grace United Church.

Minutes Approved - The Executive Committee minutes of March 16, 1989, were approved as submitted.

Medicaid - Provider Agreement - The Executive Committee approved a draft letter to Dr. Joseph E. Davis, Director of the Medical Care Operations Administration, DHMH, urging adoption of recommended changes in the Provider Agreement for Participation in the Title XIX Program. In particular, Med Chi requested that DHMH give consideration to reducing the period of time for retention of physicians' appointment records, and that a statement be included in the agreement that the Department provide advance notification of potential changes in program procedures and/or policies prior to the effective implementation date to allow adequate time for physicians to respond.

AMA Delegate/Alternate Delegate - The Executive Committee received for information a letter from Med Chi's Parliamentarian, Alan M. Rifkin, Esq., concerning the parliamentary rule on filling vacancies among the AMA Delegation. Mr. Rifkin concurred with the Faculty Bylaws, Article IV, Section 9, that a "vacancy in any other office elected by the House of Delegates shall be filled by the Council until the next annual session of the House of Delegates." Mr. Rifkin also recommended that the Bylaws Committee consider amending Section 6 of Article XI of the Faculty Bylaws by deleting the word "their" to avoid any misinterpretation relative to the seating of the delegates and alternates. This issue will be forwarded to the Bylaws Committee for its consideration.

AMA Issues

Focused CME Programs for Enhanced Clinical Competence - The Executive Committee received, as information, Med Chi's response to the AMA's request regarding activities relating to the needs of physicians who have been identified as requiring focused continuing medical education.

AMA Commemorative Stone - The Executive Committee approved an expenditure of $300 as a contribution to the AMA's campaign to refurbish the AMA Commemorative Stone housed in the Washington Monument.

Hospital Medical Staffs Committee - Dr. Victor Hrehorovich, Chairman of the Hospital Medical Staffs Committee, presented an update on the status of the model hospital medical staff bylaws and requested authorization of the Executive Committee to write to the hospital medical staffs announcing the availability of Med Chi's resources in providing consultative expertise in the area of quality assurance. Following discussion, the Executive Committee recommended that additional information be included in the communication to the hospital medical staffs to reflect the costs incurred for such services. The Executive Committee also approved a draft letter addressed to the chiefs of hospital medical staffs transmitting AMA data on the legal status of hospital medical staffs.

Medicaid Diversion Fund - Dr. Atkins reported on recent discussions with Secretary Wilzack on this issue. Med Chi has expressed its opposition to the Medicaid Hospital Diversion Program and provided recommendations, as approved by Council, in a letter to the AELR (Administrative, Executive and Legislative Review Committee) of May 1, 1989.

Brand Name Drugs Prescriptions - Medical Assistance - Dr. Atkins advised the Committee that during discussions with Secretary Wilzack he requested that the Department keep Med Chi informed of which drugs they are concerned about and requested that they work with Med Chi in resolving this problem. Dr. Atkins letter of May 5, 1989 to Secretary Wilzack citing Med Chi's opposition to Medicaid Transmittal #91

(Prescriptions for Brand Name Drugs) was provided to the committee for review.

Financial Reports - The financial reports for March and April 1989 were reviewed and accepted by the Executive Committee. Following discussion, the Executive Committee adopted a motion by Dr. Atkins that the Faculty's Finance Committee review the monthly financial reports prior to submission to the Executive Committee.

Committee on Scientific Activity - It was reported that the Turf Valley Hotel and Country Club, which had been proposed as the 1990 site for the Faculty's annual meeting, will charge a fee of $5,000 per day for use of meeting space. This matter will be discussed at the meeting of the Committee on Scientific Activity on Monday, May 22, and a report of the committee's deliberations will be provided to the Executive Committee at its next meeting.

Physician Quality Assurance Board - The Executive Committee approved for mailing a letter to the Board of Physician Quality Assurance requesting a meeting with the Board to review the complete case management processing system due to a recent marked increase in the number of cases forwarded to Med Chi and to discuss the matter of the Board issuing subpoenas for medical records.

Pro Monitoring Committee - The Executive Committee approved the request of Dr. John A. Singer, Chairman of the PRO Monitoring Committee, to organize an accredited statewide seminar to educate physicians regarding the Delmarva Foundation's PRO contractual requirments, its organization, and its administration, etc. Dr. Atkins stated he had received an invitation from Dr. R. Lane Wroth, Medical Director of the Delmarva Foundation for a luncheon meeting and will extend the invitation to Dr. Singer as well.

Howard County Medical Society - Mr. Troisi reported on a potential discrimination suit against the Howard County Medical Society involving an HIV-positive individual who had called the society for the referral of a physician for treatment and, allegedly, was told they had no listing of physicians available for treating HIV patients. The case has been reviewed by the Howard County and Maryland State authorities, and the society was not cited as being discriminatory in its action. The federal government also had the case for review, but on learning the Howard County Medical Society was not federally funded, withdrew from the case. The matter is presently in the hands of Alan Rifkin, Esq., for review.

Health Convocation - The Executive Committee approved sponsorship of the 1989 Health Convocation with a contribution of $2,500 to Larry Young Associates.

Committee on Aids - The Executive Committee approved a request of the Committee on AIDS for a contribution of $250 to the statewide "Stop AIDS" program to be administered by the Department of Family Medicine of the University of Maryland.

Legislative Committee Report - Mr. Evans gave a brief report on the activities of the committee and stated that a summary of the 1989 legislative session is near completion.

President's Comments - Dr. Atkins reported he plans to appoint physicians to the Legislative Committee who will be assigned the task of developing position papers on various subjects, for example, AIDS, mental health, peer review, drugs, breast cancer, tort reform, laboratory regulations, etc. This information will be disseminated to members of the Faculty through the component societies to keep them apprized of the Faculty's position on these various issues.

Dr. Atkins also stated that as a result of discussions in a recent meeting with the Faculty's committee chairmen, it was decided that all committees would meet on a monthly basis and copies of the minutes of the meetings would be forwarded to the Executive Committee for review. Following discussion of the best way in which the Executive Committee should review this information, Dr. Nagel suggested that he would review the material with the Executive Director to extract the pertinent information to be forwarded to the members of the Executive Committee. ■



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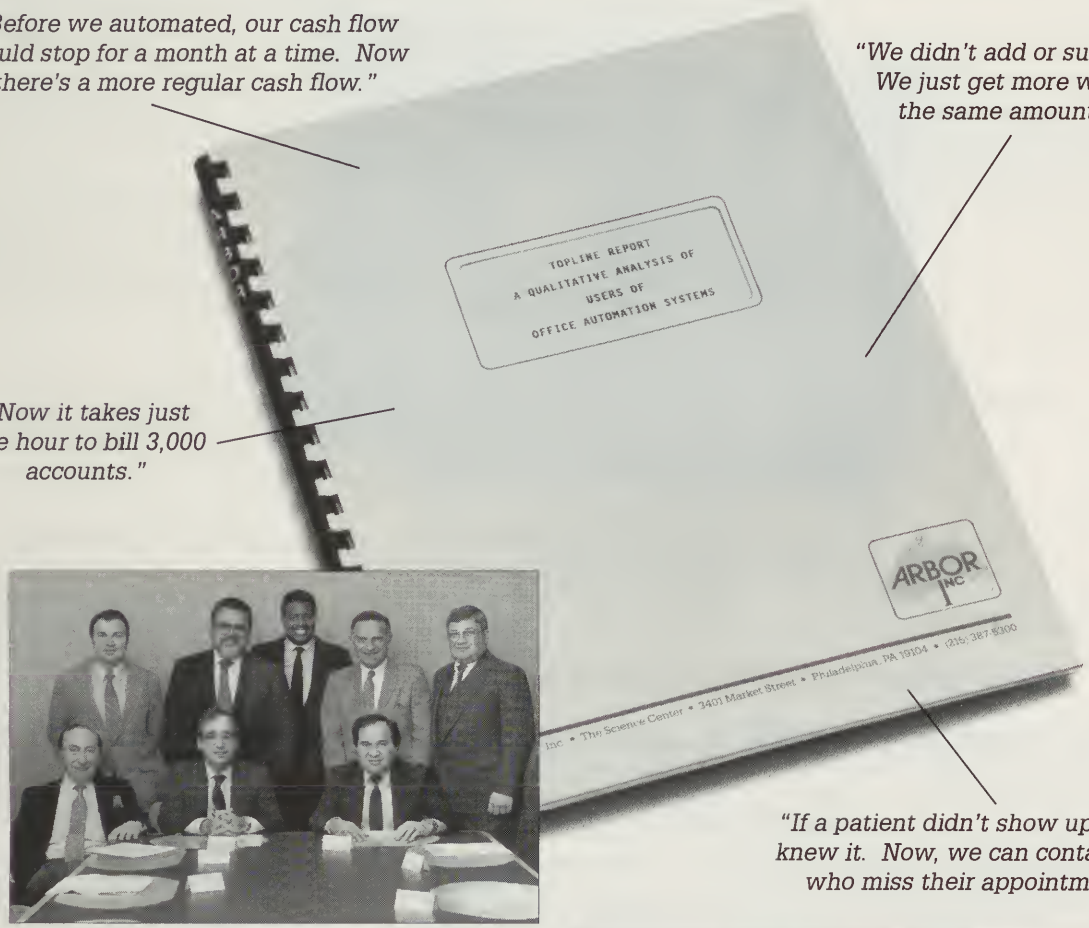
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Executive Director's Newsletter

September 1989

Semiannual Meeting

Med Chi's Semiannual meeting will be held at the Sheraton Ocean City Resort and Conference Center on September 14-16, 1989. A tentative schedule for the meeting is as follows:

Thursday, September 14, 1989

8 a.m.-5 p.m. Registration
8 a.m. Exhibits Open
8 a.m.-12 noon White Paper Presentations
These special scientific sessions detail the content of Med Chi's new "White Papers" or issue position papers. Topics are issues requiring Med Chi's position and may become legislative issues in the 1990 session of the Maryland General Assembly.
3 p.m.-5 p.m. Med Chi Council Meeting

Friday, September 15, 1989

8:00 a.m.- 5 p.m. Registration
8:30 a.m. Exhibits Open
9 a.m. Auxiliary Meeting and Breakfast Buffet
9:30 a.m.- 12 noon Med Chi House of Delegates Meeting
2 p.m.- 5:30 p.m. Scientific Sessions

Saturday, September 16, 1989

8 a.m.-5 p.m. Registration
9 a.m.-12 noon Exhibits Open
9 a.m.-12:30 p.m. Scientific Sessions
12:30 p.m. MMPAC Luncheon
Maryland Senate President Thomas V. "Mike" Miller is the featured speaker.

Expenditure Targets

Congress is scheduled to vote on the issue of adopting expenditure targets (ETs) as soon as the session begins in September. ETs are government-set expenditure goals for physicians that are intended to control the volume of physicians services under Medicare Part B. If the targets are exceeded, Medicare physician reimbursement rates will be adjusted downward and across the board. The AMA maintains that government control of the volume of medical services means limits or restrictions on those services.

Med Chi has taken several steps to inform its member physicians and the public about ETs. In July, Med Chi sent letters describing the detrimental aspects of ETs to Maryland's U.S. senators and congressmen and to the editors of the *Baltimore Sun* and the *Washington Post*. In addition, Med Chi staff and Public Relations Committee Chairman, William A. Cassidy MD met with AMA President Alan R. Nelson MD to discuss strategies for defeating ETs. Dr. Nelson highly commended Med Chi's efforts in informing its members about this proposal. In addition, the auxiliary and several component societies have notified their membership through phone trees.

To defeat ETs Maryland physicians must encourage their patients to contact their congressmen before Congress convenes in September, and ask them to delete ETs from the Medicare budget reconciliation bill.

Thus far, Representative Constance A. Morella (D-8th District) from Montgomery County, and Representative Tom McMillen from Prince George's County have agreed to delete ETs from the budget.

Med Chi has developed additional ET flyers (see the following pages) so that Maryland physicians may inform their patients about expenditure targets. These flyers describe ETs and provide the phone numbers of all Maryland congressmen. Physicians are encouraged to make copies for their patients and to post the flyer in their offices. For additional copies contact Betsy Newman, Public Relations for Med Chi at 301-539-0872, or in Maryland, 1-800-492-1056.

Problems With Third-Party Carriers?

The Committee on Managed Care and Third-Party Liaison is collecting information from Med Chi members regarding problems they have encountered with third-party carriers. The Committee is particularly interested in arbitrary or unreasonable practices and procedures of third-party carriers. Please forward your concerns to: Aristides Alevizatos MD, Chairman, Committee on Managed Care & Third Party Liaison, Medical & Chirurgical Faculty of Maryland, 1211 Cathedral Street, Baltimore, MD 21201.

UPIN Unique Physician Identification Number

Under the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), a Registry of Medicare Physician Identification and Eligibility Records was established. The intent of this COBRA legislation is to assure proper payment of Medicare reimbursements and to track practitioners sanctioned by Medicare. Medicare carriers are compiling practitioner data for this Registry. All physicians, including physicians participating and nonparticipating in Medicare, are being contacted by their Medicare carriers for certain identifying information including provider name, provider number, phone number, billing address, and actual physical location of doctor's office. The information will be used to assign a unique identification number (UPIN) to all physicians who receive payment from Medicare. The provisions of COBRA require that all physicians be assigned a UPIN by mid-November, 1989. The information compiled and provided to the Registry is protected from public access by the Privacy Act.

Because of the AMA's interest in helping the Health Care Financing Authority (HCFA) assure proper Medicare reimbursement to physicians, its concern about tracking sanctioned physicians, and its desire to minimize additional requests for information from physicians, AMA has agreed to assist the Registry in identifying duplicate physician records in the carrier data.

Clarification

Comments regarding the "Generic Subsitution Ruling" in the August issue of this newsletter applies to all prescriptions for Medical Assistance Beneficiaries.

Angelo J. Troisi, FACHE
Executive Director

Is Congress Listening?

What Americans said...	What Congress did...
1986 Americans opposed any reduction in Medicare spending*	**1986** *Cut* Medicare spending
1987 Americans favored increased spending for Medicare*	**1987** *Cut* Medicare spending
1988 Americans needed increased government funding on health care for the elderly*	**1988** *Cut* Medicare spending

This year the government wants to cut Medicare again by limiting the amount of medical services for seniors through **"Expenditure Targets."**

Expenditure targets are government-set limits on spending for needed health care. These targets are the first step toward rationed health care for the elderly.

Physicians want you to get all the care you need. To protect your care, call your Congressman today. Their names are listed on the back of this flyer. Tell them you are concerned about the cuts in the Medicare program. Urge them to delete **expenditure targets** from the Medicare Budget Reconcilliation Package.

This Time, Make Congress Listen

*Public opinion survey results published in *American Medical News* June 23\30, 1989

Medical and Chirurgical Faculty of Maryland



Ask your doctor if you have any questions. Or if you need more information, please contact Med Chi's Public Relations department at 301-539-0872 or in MD 1-800-492-1056.

Help Protect Our Medical System

Call your Senators and Congressmen today and say:

"I am concerned about the cuts made to the Medicare program and as my representative, I want you to delete expenditure targets from the Medicare budget reconcilliation package."

Maryland Senators

Sen. Paul S. Sarbanes- 202-224-4524 Sen. Barbara A. Mikulski- 202-224-4654

House of Representatives

Allegany County
Beverly B. Byron (D-6th District) 202-225-2721

Anne Arundel County
Tom McMillen (D-4th District) 202-225-8090

Baltimore City
Benjamin L. Cardin (D-3rd District) 202-225-4016
Kweisi Mfume (D-7th District) 202-225-4741

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Steny H. Hoyer 436-5510
Tom McMillen 841-5392 (Annapolis)
768-8050 (Glen Burnie)
567-9212 (Oxon Hill))
Kweisi Mfume 367-1900

This could be you...

In Canada, where **expenditure targets** exist, people wait months for many medical procedures. In Vancouver, Canada there are 1-3 month waiting periods for psychiatric, neurologic or routine orthopedic consultations.
Is that what *you* want?



In America, Congress wants to limit the amount of services for seniors by creating **Expenditure Targets. Expenditure Targets** are government-set limits on spending for needed health care.

These targets are the first step toward a rationed health care for the elderly which could result in waiting periods for medical treatments like those in Canada.

Physicians want you to get all the care you need.

To protect your care, call your Congressman today. Their names are listed on the back of this flyer. Tell them you are concerned about the cuts in the Medicare program. Urge them to delete expenditure targets from the Medicare Budget Reconcilliation Package.

Ask your doctor if you have any questions. Or if you need more information, please contact Med Chi's Public Relations department at 301-539-0872 or in MD 1-800-492-1056.





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and Chirurgical Faculty
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...if you don't act now

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Razzack, Tucker and Hutcheon, M.D., P.A.
Towson, Maryland

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Robert E. Zadek, M.D.
Drs. Abrams, Zadek and Mack, P.A.
Baltimore, Maryland

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Women and Organized Medicine: A Call for Action

Just as women physicians have assumed the responsibilities of their role in care of patients, they must also contribute to shaping the role of the physician and the future of medicine at a time when health care is undergoing major changes.

Although the number of female physicians in the United States continues to increase, their level of representation and involvement in organized medicine generally remains unchanged. Between 1970 and 1985 the number of practicing physicians in this country grew by 66 percent; the number of women physicians increased three times that amount to over 80,000, according to the AMA.* In 1980, women constituted 12 percent of the physician work force and by the end of 1985, the number of women had increased to 15 percent of the total physician population. The U.S. Bureau of Health Professionals predicts that by the year 2000 approximately one fifth of the nation's physicians will be women. Despite this extraordinary rate of increase, only about 28 percent of female physicians are involved in organized medicine as compared to approximately 45 percent of male physicians.

AMA data show the national problem of recruitment of women in organized medicine is especially pronounced at the state level. Most states affirm difficulties in recruiting women members and acknowledge that women are underrepresented in their societies. Because of this, several state medical societies have begun recruitment programs specifically geared toward women physicians.

The most popular method of recruitment at the state level is through direct mailings. However, recent efforts show this is not effective. In 1988, the California Medical Association sent personalized letters to 1,910 nonmember women physicians in 11 counties. Only 5 percent of the women answered the letters. The San Francisco Medical Society conducted a similar effort in 1988; they sent a series of three mailings to all nonmember women physicians in the area. Two of the three mailings included membership applications. Despite this extensive effort, only one application was received.

In 1987, the Indiana State Medical Association (ISMA) took a different approach to membership mailings and sent a survey to all women physicians in the state. The survey was intended to pinpoint the interests and concerns of women physicians. John Wilson, Controller of ISMA, said the only conclusive result from the survey was that women physicians prefer informal, unstructured meetings to exchange information. Wilson expressed concern about the low percentage of women currently in membership

*Statistical information provided courtesy of the AMA Women in Medicine Project.

and said, "All medical societies should be doing something to encourage more women to join."

Like other states, Maryland, through Med Chi and several of its component societies, has initiated special recruitment efforts specifically targeted for women. One of these, the Montgomery County Medical Society (MCMS), is Med Chi's most active component in recruiting women. In November 1988, MCMS devoted an issue of *Montgomery Medicine* to women physicians covering topics from medical school interviews to referrals. In January, MCMS sent over 180 letters to nonmember women physicians and received nine requests for membership packets.

At the state level, Med Chi recently formed the ad hoc Women in Medicine Committee, which has started a statewide recruitment campaign for women physicians. In August, the Committee sent a recruitment letter encouraging nonmember women physicians to contact their component society. In September, the committee plans to invite several nonmember women physicians to attend the monthly meeting of the Women in Medicine Committee.

In addition to these conventional methods of recruitment, the Women in Medicine Committee is taking further steps to analyze problems unique to women physicians that currently may prevent women from becoming involved.

Juggling familial responsibilities is often difficult for women. The Women in Medicine Committee is exploring the possibility of providing minimal cost child care services for members conducting business at Med Chi. Med Chi offered this service during the 1988 Semiannual Meeting and this year's Annual Meeting.

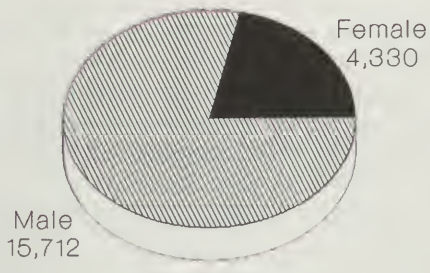
There have been few women physicians in the ranks of organized medicine to provide strong role models. To encourage leadership and high visibility within the organization, Chairman Margaret Snow MD has requested the appointment of women to all Med Chi committees. The Women in Medicine Committee hopes that once women are established within the committee framework and accepted as leaders in the organization more women will join.

Future plans for the Committee include encouraging monthly forums at state and county levels for all women physicians so they may have the opportunity to discuss their situations and clarify problems.

Recruitment of women is challenging, but there is some indication that efforts are paying off. By December 1989, four Med Chi component society Presidents will be women (see interviews on next page). According to the AMA, 21,634 women were enrolled in medical school in 1985-1986. Thirty-six percent of these women are AMA student members compared to 40 percent of the male medical students. These figures are encouraging because they show a better balanced male/female ratio and they provide a strong base for the future of women in organized medicine.

National, state, and county medical societies are making a concerted effort to encourage women to join organized medicine. These groups recognize that women must become involved in order to have an organization truly representative of the general physician population that will promote and protect the interests of all physicians.

Comparison of Male to Female Physicians in Maryland



All Physicians



AMA Members

*Statistical information provided courtesy of the AMA Women in Medicine Project

The Benefits of Organized Medicine

Many women physicians who have not joined organized medicine may not realize the benefits of belonging. Med Chi has a long history of representing and serving all Maryland physicians and is recognized nationwide as one of the most progressive medical associations in the United States. Highlighted below are just a few of the programs and services available to member physicians.

Insurance Programs

The Med Chi Agency offers insurance programs and financial services to Med Chi physicians and their office staff. Group insurance plans including health, life, dental, disability, and office overhead help to ease financial worries. In addition, malpractice, property/casualty, and personal lines insurance programs are available. Members also can use the personal financial planning services offered by the Med Chi Agency's professional staff.

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Med Chi has an in-house attorney to provide legal advice on professional and medically related issues. Legal services include advice on the release of medical records, on termination of a physician/patient relationship, and on ethical situations. Analysis of contracts and hospital bylaws also is offered, and a confidential physicians defense panel is available to any member facing malpractice action.

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Since its incorporation in 1799, Med Chi has continued its founding philosophy of leading the way in political action and taking steps to secure just laws governing the practice of medicine. Med Chi is the primary voice of physicians and their patients in Annapolis. Med Chi works to influence legislative issues at both state and federal levels and, through its Legislative Committee, sets the direction for legislative action. Med Chi employs a full-time lobbyist who communicates Med Chi positions on health-related legislation. Through MMPAC, the Maryland Medical Political Action Committee, members can show their support for selected political candidates.

Med Chi offers much more than what is described above. It allows physicians to have an impact on concerns relevant to their practice and their patients and provides an opportunity to expand professional and personal relationships. Member physicians get the support necessary to begin a successful practice, and they become part of an organization whose members are the true voice of medicine in Maryland.

To receive a brochure that describes more Med Chi benefits call Med Chi's Membership Office at 539-0872 or 1-800-539-0872. Med Chi physicians receive a $35 credit toward their next year's dues for each physician they recruit.

I have been a member of Med Chi for many years and the organization has always been supportive of what I was doing. I have been able to grow as a leader while working within Med Chi. I first became an alternate delegate, then a delegate, then I was a co-chairman, and now I am a committee chairman. Med Chi is always open to growth.

It is gratifying to be able to say that you are working in organized medicine. I can only speak very highly of this organization of physicians who are all working together for a common cause.

Susan Guarneri MD
President-Elect
Baltimore City Medical Society





I am impressed by the fact that many physicians say, "Organized medicine doesn't represent me or my interests." The people who are most adamant about not joining are very ignorant about what organized medicine does. Physicians not involved in organized medicine usually are unclear about who is representing them. They assume that some "Joe" will do it, but what they don't realize is that "Joe" gets tired.

Congress often acts in a vacuum from the lack of physicians' input. We need more people to get involved in the important issues. Physicians can do this by joining together and sending a unified message to Congress. This can be done by simply writing letters or calling one's congressman.

One problem is trying to get physicians behind a single front. We have too many chiefs and no indians. Physicians must unify behind a group of leaders and vigorously support them. Med Chi provides that unity and that leadership.

Cheryl E. Winchell MD
President-Elect
Montgomery County Medicial Society

The number of women in medicine has increased significantly in the last few years. Just as women have assumed the responsibilities of their role in care of patients, they must also contribute to shaping the role of the physician and the future of medicine at a time when health care is undergoing major changes.

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Hospitalized Head-Injured Patients in Maryland: Incidence and Severity of Injuries

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Hospital discharge data collected from all acute care hospitals in Maryland were used to examine severity-specific rates of hospitalized head injuries in 1986. Findings indicate that males are at twice the risk of females for hospitalization for head injury; whites and nonwhites are at similar risk. Evidence that the rate of hospitalization for head injury may be increasing underscores the importance of head injury as a major public health problem in Maryland.

The public health importance of head injury as a major source of mortality and morbidity is well recognized. Studies published within the last 10 years have reported incidence rates that range from 152 to 200 per 100,000 population depending on case definitions and case ascertainment methodologies.[1-11] Despite differences in the magnitude of these estimates, findings regarding the patterns of incidence by age, race, sex, and external cause are highly consistent. Few published studies, however, have systematically examined these patterns of incidence by severity. Uniformly collected statewide hospital discharge abstract data generally have provided an excellent source of information on the incidence of injury severe enough to require hospitalization.[12,13] The recent development of a computerized conversion table that translates ICD-9CM coded discharge diagnoses into injury severity scores has led to new applications of these databases providing population-based data specific to severity.[14] These data are useful in projecting the number of individuals who survive a serious head injury and who are likely to need rehabilitation services.

Materials and Methods

Data Sources Incidence of hospitalized head injuries for 1986 were computed for the State of Maryland using uniform hospital discharge abstract data maintained by the state's Health Services Cost Review Commission (HSCRC). All 56 acute care, nonfederal hospitals in Maryland are mandated by law to submit uniform data on all discharges to the Commission, which is

responsible for setting hospital rates under the state's per case payment system. Excluded from the database are injuries treated on an outpatient basis as well as deaths that occur at the scene, in transport, or in the emergency department. Data abstracted for each hospital discharge include patient demographics (age, race, sex, county of residence), up to five discharge diagnoses coded using the Clinical Modification of the 9th Revision of the International Classification of Diseases (ICD-9CM), up to three procedures (ICD-9CM coded), total and ICU length of stay, total and component charges, discharge status, and expected principal source of payment. There is a high degree of confidence in the quality of the discharge abstract data including the diagnostic information: it is used in paying all hospitals in Maryland.

To compute discharge rates, the total number of hospital discharges (both residents and nonresidents) was divided by the state resident population for that year as estimated by the Maryland Department of Health and Mental Hygiene. This approach assumes that the number of state residents treated in out-of-state hospitals roughly equals the number of nonresidents treated in-state.

Definitions A head-injury discharge was defined as any discharge with a principal or secondary diagnosis of a skull fracture and/or intracranial injury (ICD-9CM codes 800, 801, 803, 804, 850-854). Only those secondary head-injury discharges with a principal diagnosis of a traumatic injury to another body system, however, were included. Thus individuals who sustained a head injury secondary to a fall following a stroke would not be included if the stroke was listed as the principal diagnosis.

Injury severity was determined through the use of the computerized conversion table ICDMAP, which maps ICD-9CM coded discharge diagnoses into Abbreviated Injury Scale (AIS) scores.[14] The resulting severity scores are referred to as ICD/AIS scores. The AIS is the most widely used injury severity scoring system that is based primarily on anatomic descriptors of the injury.[15] It is an ordinal scale that ranges from 1 (minor injury) to 6 (maximum injury, virtually unsurvivable). While not a perfect tool for providing precise information on injury severity, ICDMAP does afford the opportunity to classify trauma cases according to relative severity when only ICD-9CM coded discharge diagnoses are available.

Assumptions used in assigning AIS scores to ICD-9CM diagnoses were generally conservative. Further, errors in chart abstracting and ICD coding have been shown to lead to lower than average AIS scores.[14] Therefore, the severity of trauma cases will, on average, be slightly lower when using the conversion process than when scoring directly from the medical record. Discharges with more than one head injury diagnosis were classified according to the most severe (highest ICD/AIS score) head injury. For purpose of description, ICD/AIS 1-2 injuries are referred to as "minor," ICD/AIS 3 injuries as "moderate," ICD/AIS 4 injuries as "serious," and AIS 5 injuries as "severe."

Head injuries also were classified according to their external cause as coded using ICD-9CM E-codes. Causes were grouped for presentation into motor vehicle-nonpedestrian (E810.0-823.9 excluding those with a fourth digit of .7), motor vehicle-pedestrian (E810-E823 with a fourth digit of .7), bicycle (E826), falls (E880-888), assault (E960-978), and other. Only 56 percent of the head injury discharges in 1986 were E-coded. Further, the coding of external cause was strongly associated with both the severity of the injury (60 percent of ICD/AIS 1-2 head injuries were E-coded compared to 44 percent of ICD/AIS 4-5 head injuries) and with age of the patient (75 percent of those ages 0-4 were E-coded compared to 41 percent of those aged 75 and above). For this reason the number of discharges by external cause was estimated by multiplying the percent distribution of cause based on those discharges with E-codes by the total number of head-injury discharges within age and severity specific subgroups and then adding across subgroups.

Findings

In 1986 there were 5,838 discharges (18 percent of all trauma discharges) with a principal or secondary diagnosis of a head injury. Of these discharges, 1,179 (20 percent) had only a secondary diagnosis of a head injury. The majority (70 percent) of patients' head injuries were minor (ICD/AIS=1,2). An additional 17 percent were moderately severe (ICD/AIS=3), 9 percent were serious (ICD/AIS=4), and 4 percent were severe (ICD/AIS=5). A total of 20 head injuries could not be severity rated due to a lack of specificity in ICD coded diagnoses. One-third of the head injuries were diagnosed as concussions (ICD 850), and an additional 37 percent were assigned ICD diagnoses of an intracranial injury of other and unspecified nature (ICD 854). Of the remaining 30 percent, 10 percent sustained skull fractures without significant intracranial injury, while 8 percent sustained cerebral lacerations and/or contusions, and 12 percent sustained an intracranial hemorrhage.

Discharge Rates by Age, Sex, Race, and Severity The 1986 head injury discharge rate for all ages was 132 per 100,000 population. Rates for minor, moderate, serious, and severe head injury were 92, 23, 12, and 5 per 100,000 respectively. The pattern of overall incidence by age was similar to that found by previous investigators (Figure 1 and Table 1). There were three incidence peaks: the first for young children ages 0 to 4 years (140 per 100,000), the second for adolescents and young adults ages 15 to 24 (237 per 100,000), and the third for adults ages 75 and over (188 per 100,000). However, patterns of incidence by age were different for minor, moderate, and serious/severe injuries. Young adults aged 15 to 24 were at a higher risk than any other age group for both minor (167 per 100,000) and moderate (42 per 100,000) head injury. Risk of

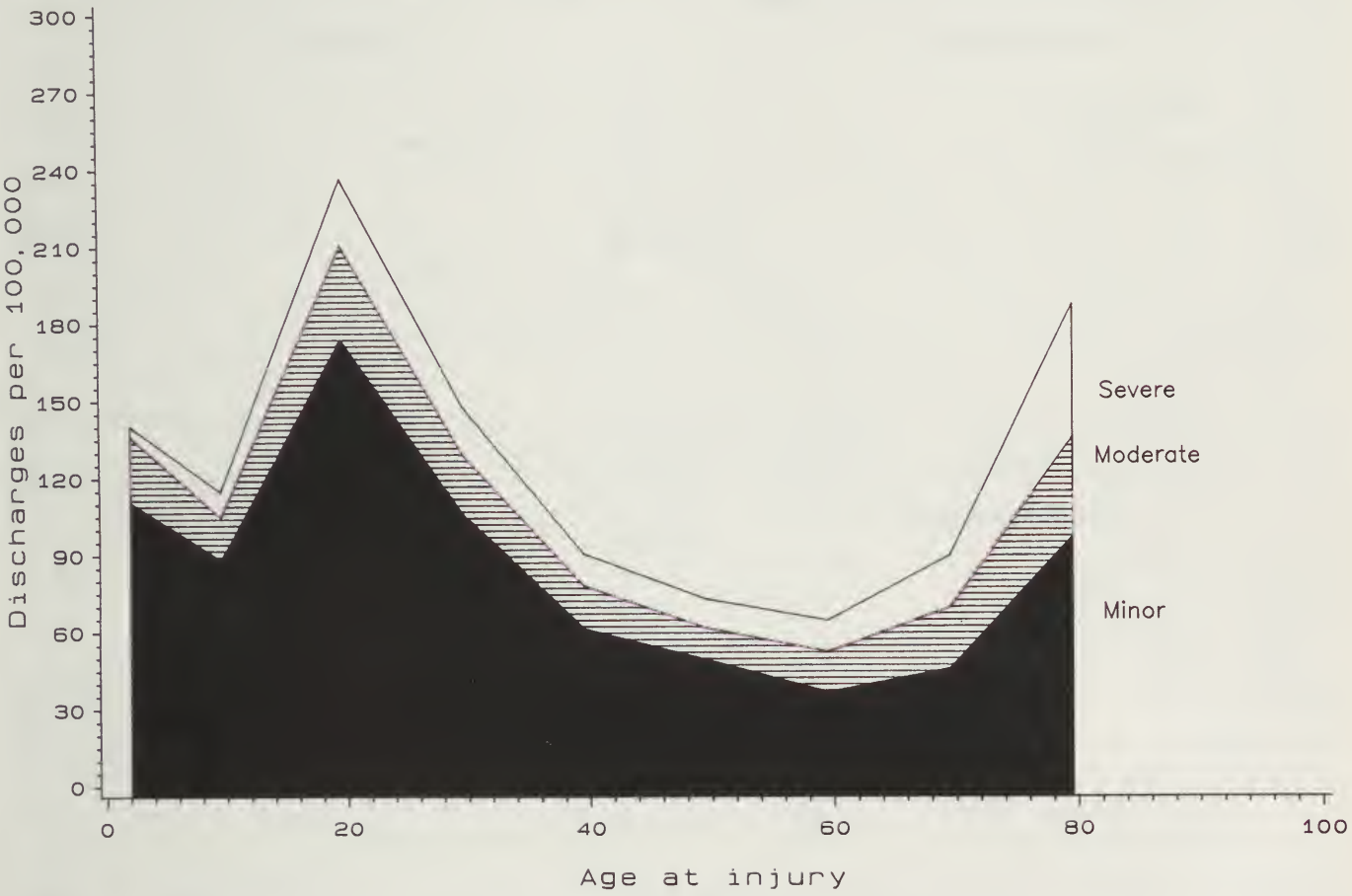


Figure 1. Head Injury Discharge Rates (per 100,000) by Age and Injury Severity (Maryland, 1986)

serious/severe injury, on the other hand, was highest among the elderly aged 75 and over (51 per 100,000). Incidence of serious/severe injury among young adults aged 15 to 24 was half (26 per 100,000) that for the elderly, and the risk of serious/severe head injury to young children was very low (4 per 100,000).

Incidence rates by age for specific ICD-9CM discharge diagnoses are summarized in Table 1. For classification cases were grouped according to the first listed head-injury diagnosis. Of particular interest is the high rate of intracranial hemorrhage among the elderly, aged 75 and over. Although the rate of discharges with a first-listed diagnosis of hemorrhage over all ages was 16.2 per 100,000, the rate of hemorrhage among the elderly was 63.1 per 100,000, more than twice the rate for any other individual age group and 3.5 times the rate for individuals less than 65 years of age.

Discharge rates by age and sex are summarized in Figure 2. The overall rate for males (176 per 100,000) was 2.1 times the female rate (87 per 100,000). The sex ratio is considerably lower among the elderly, ages 75 and over (1.3) and the young children ages 0 to 4 years (1.5), as compared with younger adults, ages 15 to 24 (2.5). However, this relationship of sex ratio by age varies with severity of the injury. Males and females aged 75 and over were equally likely to sustain minor injuries, while the risks to males of moderate and serious/severe injuries were 1.5 and 1.8 times the female rates. Overall, the sex ratios for minor, moderate, and serious/severe injuries were 1.9, 3.2, and 2.7 respectively.

Table 1. Discharge Rates (per 100,000) by First-Listed Head-Injury Diagnosis and Age (Maryland, 1986)

First Listed Diagnosis	Age at Injury									All Ages
	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	
Skull fracture	42.1	10.2	17.8	11.8	6.8	7.0	5.5	8.0	12.3	12.7
Concussion	22.8	40.9	92.7	50.9	32.4	24.7	17.5	25.8	43.8	44.0
Cerebral laceration and/or contusion	7.0	8.2	20.0	9.8	8.4	4.4	5.5	8.4	14.4	10.0
Subarachnoid, subdural and/or extradural hemorrhage or other unspecified intracranial hemorrhage	9.2	8.4	17.9	16.7	13.0	9.8	13.5	25.1	63.1	16.2
Intracranial injury of other and unspecified nature	59.2	47.6	88.6	59.0	30.4	26.7	22.1	2.0	54.5	48.8
All diagnoses	140.3	115.3	237.0	148.2	91.0	72.6	64.1	89.3	188.1	131.7

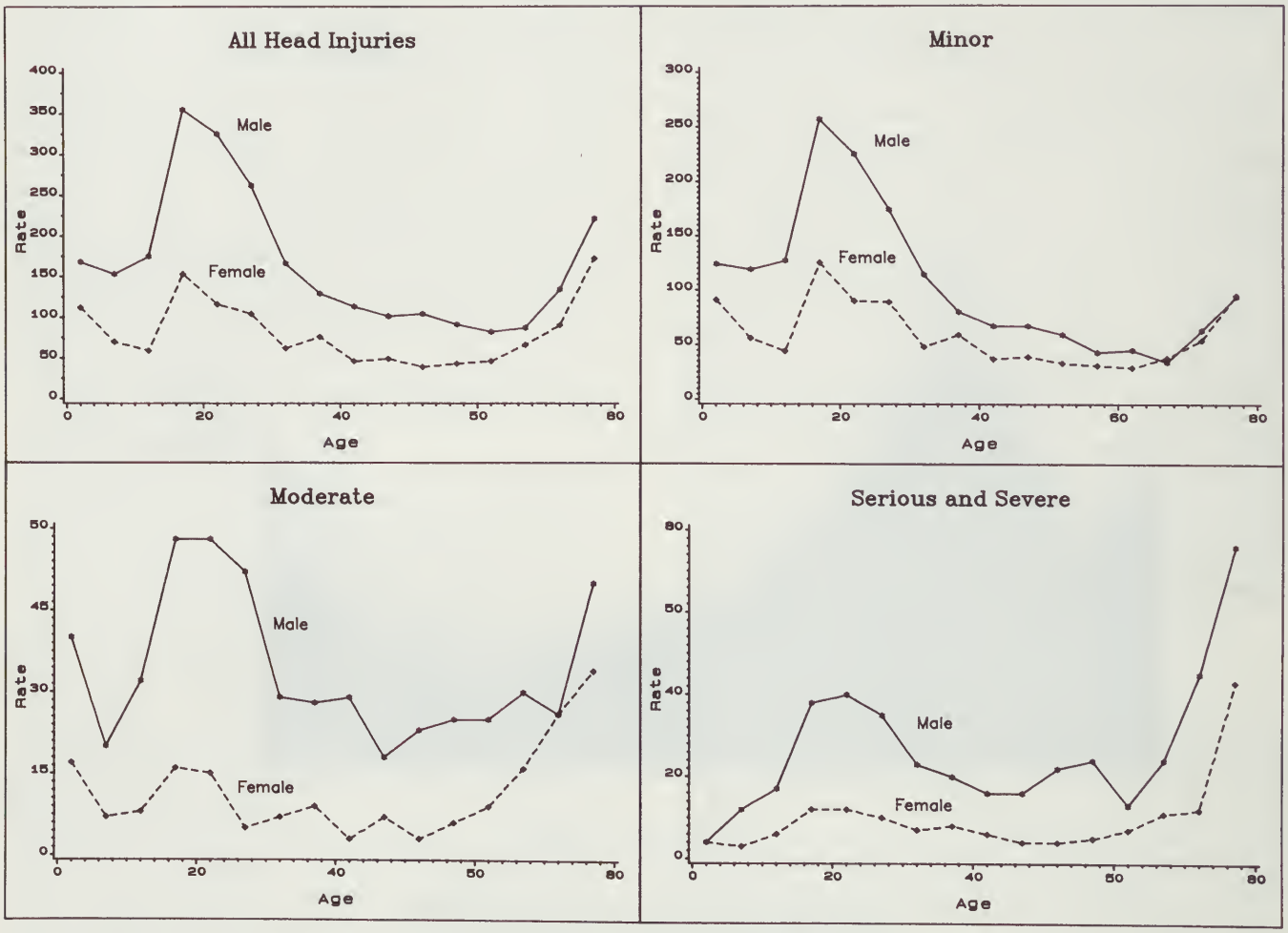


Figure 2. Head-Injury Discharge Rates (per 100,000) by Age, Sex, and Injury Severity (Maryland, 1986)

Comparison of discharge rates by race indicated little overall difference (128 per 100,000 for whites and 141 per 100,000 for nonwhites). This finding was consistent across all severity groups except for severe (ICD/AIS 5) injuries where whites were 1.6 times as likey as nonwhites to sustain a head injury. There were also significant differences in age-specific rates by race. White adolescents and young adults were almost twice as likely to be hospitalized for a head injury as were nonwhites of similar age. The peak in incidence in this young age group, however, was five years later among nonwhites (187 per 100,000 among ages 20 to 24) compared with whites (296 per 100,000 among ages 15 to 19). This five-year shift in peak incidence was similar for all severity groups. Between ages 25 and 75 rates among whites were generally lower than among nonwhites, although the differences were small (Figure 3).

Table 2. Head-Injury Discharge Rates (per 100,000) by External Cause and Severity (Maryland, 1986)

	Severity of Head Injury				
External Cause	Minor	Moderate	Serious	Severe	Total
Motor Vehicle	43.4	6.8	3.0	2.4	55.6
Pedestrian	5.8	1.7	0.4	0.4	8.3
Falls	21.8	7.6	4.0	0.9	34.3
Assault	8.7	3.5	2.0	0.5	14.7
Other	11.8	3.3	2.6	0.7	18.4
Total	91.5	22.9	12.0	4.9	131.3

Discharge Rates by External Cause of Injury and Severity Motor vehicle crashes and falls were the two leading causes of hospitalization for head injury. They resulted in 56 and 34 discharges per 100,000 population respectively (Table 2) and together accounted for over two-thirds of all head injury discharges. The risk of injury resulting from motor vehicle crashes versus falls differed according to severity of the head injury. Although both together accounted for approximately two-thirds of the injuries regardless of severity, the risk of falls versus motor vehicle crashes was slightly higher among those with moderate and serious injury as compared to those with minor and severe injuries for which the risk of motor vehicle crashes was over twice the risk of falls. As documented by previous investigators these patterns varied by age (Figure 4). The majority (70 percent) of head injuries among the elderly and young children were due to falls, whereas among adolescents and young adults, motor vehicle crashes

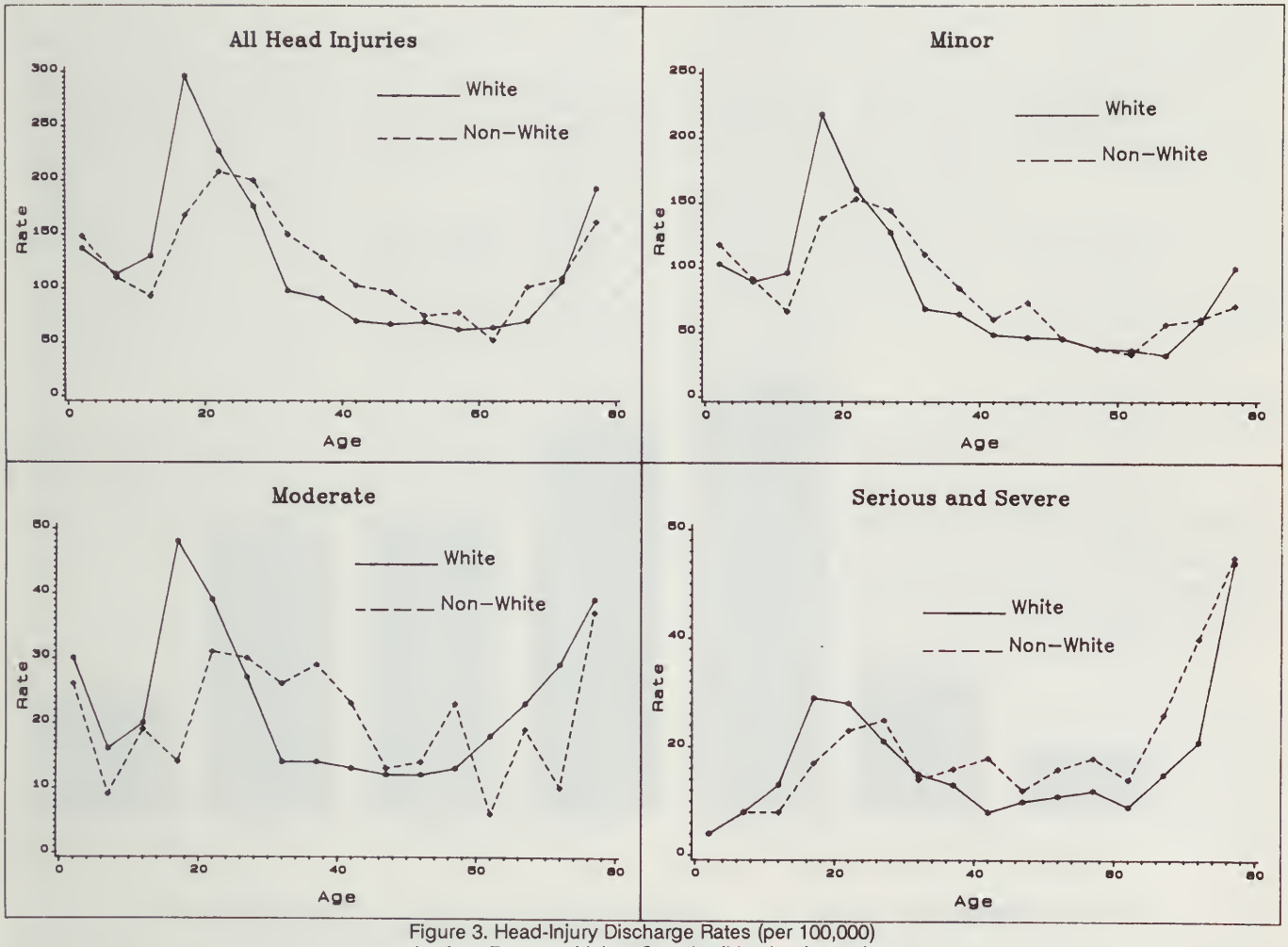


Figure 3. Head-Injury Discharge Rates (per 100,000) by Age, Race, and Injury Severity (Maryland, 1986)

accounted for 58 percent of the head injury discharges, assaults for 14 percent, and falls for only 11 percent.

Discharge Status by Age and Severity Of the 5,838 patients discharged with a head injury diagnosis, 258 (4 percent) died in the hospital (Table 3). An additional 6 percent were transferred directly to an extended care facility and 3 percent were transferred to another acute care facility. There is a strong correlation between status at discharge and ICD/AIS severity of the head injury. Among those with severe (ICD/AIS 5) head injuries, 48 percent died in hospital and an additional 24 percent were transferred directly to an extended-care facility. Among only the survivors of a severe head injury, 46 percent were transferred directly to an extended-care facility. These percents were considerably lower for those sustaining less severe injuries (AIS 1-4) where 3 percent died and 6 percent were transferred to an extended-care facility.

Discussion

The 1986 hospital discharge rate for head injury in Maryland was 132 per 100,000 population. These figures are somewhat lower than previously published estimates. In the most recent and methodologically comparable study, Fife *et al.* reported a 1979-1980 hospital discharge rate for Rhode Island of 152 per 100,000.[8] Kraus reported a 1981 rate of 160 per 100,000 for hospital discharges in San Diego County.[6] However, his definition of head injury included injuries to only the brain. National estimates of head injury hospital discharge rates have been reported as high as 200 per 100,000.[2] While these differences in rates are due in part to differences in case definition and case ascertainment methodologies, regional variations in true incidence may be a factor.

Table 3. Distribution of Discharge Status by Injury Severity (Head-Injury Discharges Maryland, 1986)

Discharge Status	Severity of Head Injury				
	Minor (percent)	Moderate (percent)	Serious (percent)	Severe (percent)	Total (percent)
Home	94	80	66	23	87
Transfer to acute care	2	4	7	5	3
Transfer to extended care	3	10	14	24	6
Died	1	5	13	48	4

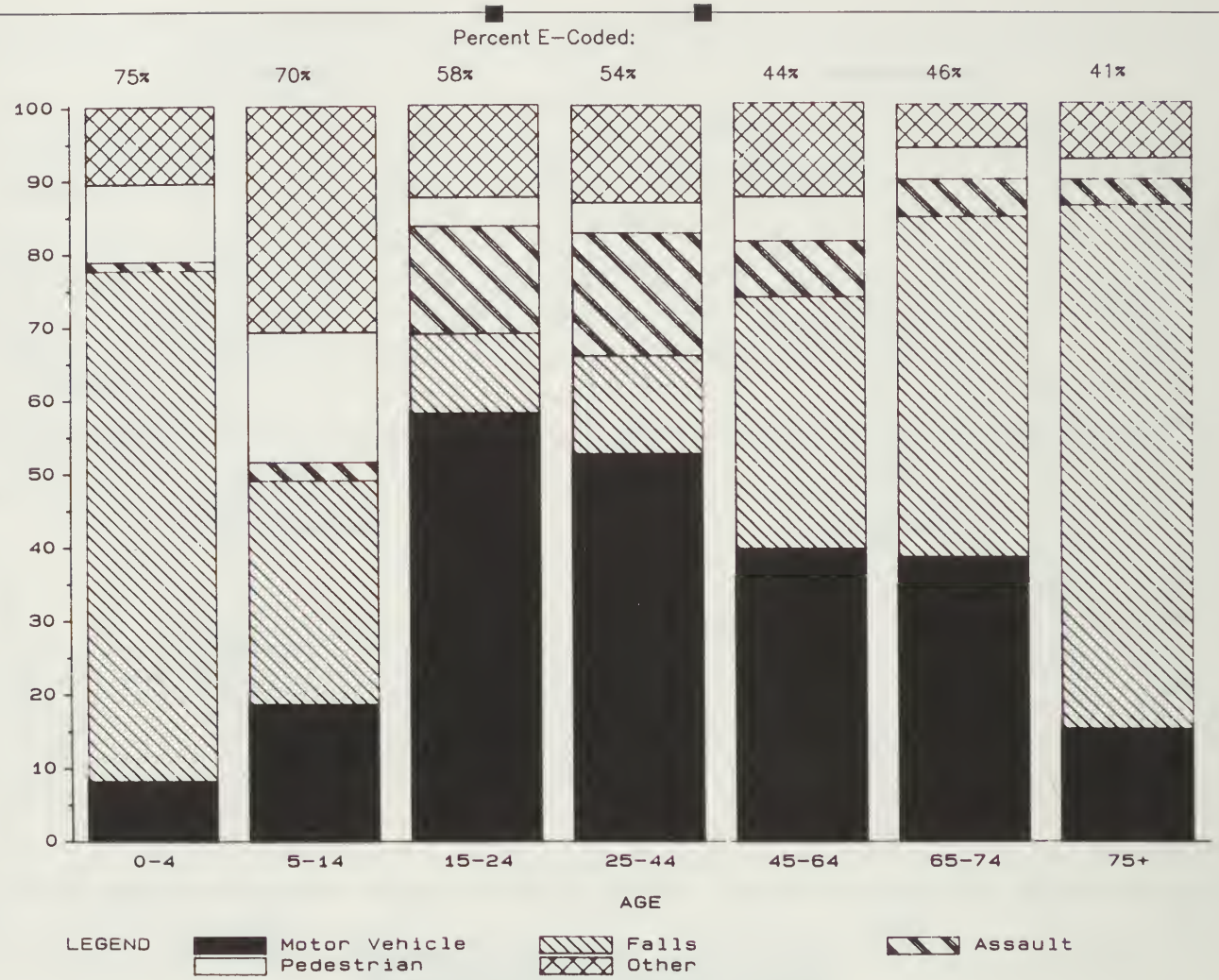


Figure 4. External Cause of Head-Injury Discharge by Age (Maryland, 1986)

Estimates based on the National Hospital Discharge Survey, for instance, indicate that while overall in 1986 there were 132 hospital discharges per 100,000 population with a first-listed diagnosis of a head injury (ICD 800-801; 803-804; 850-854) rates range from a low of 119 for the southern United States to a high of 150 for the Northeast.[16]

It should be pointed out that hospital discharge rates in general tend to overestimate the true incidence of head injury severe enough to result in hospitalization. This overestimation can occur for two reasons. First, transfers from one acute care facility to another are double counted, but the percent of all head injury discharges that are transfers is generally low (<2 percent). A second and potentially more important source of overestimation is the possible inclusion of individuals who were rehospitalized for follow-up care. To the extent these hospitalizations are classified by their principal diagnosis as "complications" or as "late effects" of the injury, they have been excluded from the count by definition. Some of these rehospitalizations will have a principal diagnosis with a valid head-injury code. These cases are not readily identifiable from the HSCRC discharge data. Hospital discharge data from New Zealand in which first admissions can be identified separately from readmissions, indicate that readmissions account for only 2 percent of all admissions with a principal diagnosis of a head injury.[17]

The distribution of head injuries by severity is similar to that reported by Krauss,[6] although the two studies are not directly comparable due to differences in methods of case ascertainment and definition of both head injury (Krauss included injuries to the brain only) and severity (Krauss used the Glasgow Coma Scale [GCS] to define severity). Krauss found that among all hospitalizations for brain injury, 9 percent were severe (GCS scores of 8 or lower); 9 percent were moderate (hospital length of stay of at least 48 hours and GCS 9-12, brain surgery, or an abnormal computerized axial tomography [CAT] scan); and 82 percent were minor (all other brain injuries). In this study 4 percent were ICD/AIS 5 injuries; 9 percent were ICD/AIS 4; 17 percent were ICD/AIS 3; and 70 percent were ICD/AIS 1-2 head injuries.

The findings of the present analysis agree with those of previous investigations with respect to overall pat-

terns of incidence by age, race, sex, and external cause.[1-11] What previously has not been published is a systematic examination of these patterns by severity of the head injury. Of particular interest are the findings that the elderly are at a particularly high risk of serious head injury involving intracranial hemorrhage. The conclusions of this study confirm Pentland and colleagues' comparison of 449 head-injured patients aged 65 and over who were admitted to the Head and Spinal Injury Unit in Edinburgh, Scotland, with a similar group of 1,571 head injury patients under 65 years.[18] They found a significantly higher percent of patients with intracranial hemorrhage among those aged 65 and over (9.4 percent) compared with their comparison group of younger patients (2.7 percent). The previously documented finding that elderly males and females are at equal risk of head injury appears to hold true for minor head injuries only. Elderly males continue to be at significantly higher risk than females for more severe injury.

Based on the data in our study it is projected that in 1990, if the hospital-discharge and case-fatality rates were to remain constant, about 5,764 Maryland residents will survive a head injury serious enough to require hospitalization. These projections were made by applying 1986 age-specific head-injury discharge rates for survivors to the Maryland population as projected by the Maryland Department of Health and Mental Hygiene. Although the majority (72 percent) of head injuries are minor, conservative estimates of the number who sustain AIS 3,4, and 5 head injuries are 917, 482, and 115 respectively.

But these are conservative estimates, there is evidence the rate of hospitalized head-injury may well be increasing. An analysis of the trends in the age-adjusted hospitalized head injury discharge rate has shown a steady increase of 3.4/100,000 population per year over all severity groups with the largest increase noted among the most severe.[19] The rate for ICD/AIS 5 head injuries nearly tripled over eight years from 1.7 per 100,000 to 5.0 per 100,000, whereas the rate for less severe injuries increased by less than 50 percent over the same time period. These increases have been accompanied by a decrease in the case fatality rate from 4.9 percent to 4.4 percent. If one were to project the number of survivors of head injury based on these observed trends, the estimates of the number of individuals surviving AIS 1-2, 3, 4, and 5 head injuries in 1990 are 4,702, 1,043, 553, and 132 respectively.

The individual and societal costs associated with severe head injuries are substantial. Several studies have documented the persistence of significant physical, neuropsychological, and psychosocial deficits following severe head injury in both children and adults.[20-32] Less is known about the residual effects of minor head injury, although there is increasing evidence to suggest that even minor injuries are associated with a constellation of physical symptoms such as persistent headaches as well as psychosocial and behavioral problems.[33-41] The needs of these individuals often are ignored, and yet they are large in number. Nevertheless, these statistics likely underestimate the magnitude of the minor head injury problem for two reasons. First, significant numbers of individuals who sustain head injuries are never hospitalized. Estimates based on the National Health Interview Survey (NHIS) indicate that well over one million people each year are treated for a skull fracture or intracranial injury in an Emergency Department or a physician's office.[42] Second, there is evidence that even among hospitalized patients, minor head injuries that are secondary to other traumatic injuries, especially spinal cord and orthopedic injuries, may be underreported.[43]

The findings of this study underscore the importance of head injury as a major public health problem in Maryland.

Although primary prevention of head injuries should be given the highest priority, there is also a need to ensure that those individuals who do survive a serious head injury receive adequate rehabilitation services.

The State of Maryland Echelons of Care Program has served for many years as a model of regionalized trauma care. Adequate rehabilitation is a vital part of the system if the good results of trauma surgical care are to result in better long-term outcomes and quality of life for those patients who survive.

Acknowledgments

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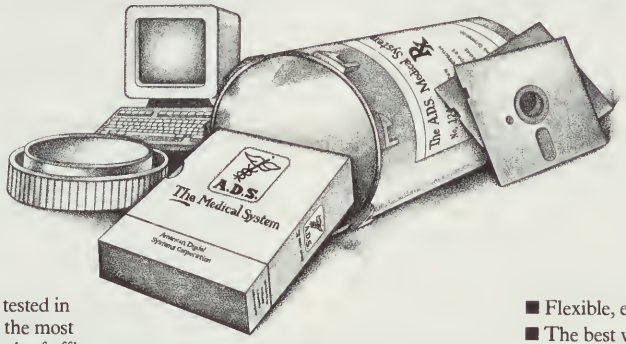
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Case Report: An Unusual Vibrio Infection

John B. MacGibbon MD

Dr. MacGibbon is on staff at Church Hospital and an Instructor in Medicine, The Johns Hopkins Hospital.

Nonclassical vibrio infections are being better diagnosed because of awareness of them; many of the newer vibrio infections are being better recognized because of more selective culture methods. These infections pose a risk to individuals who play and work in warm coastal waters as well as to those who eat raw or partially cooked seafood.

A 26-year-old Korean seaman was in his usual state of good health. Two days prior to hospital admission he developed severe epigastric pain and nausea but no vomiting. He then developed watery diarrhea as frequently as every 20 minutes. These symptoms persisted throughout the night. The following day and early on the morning of admission he still had severe diarrhea, felt weak and was doubled up in pain, and was taken to the emergency room.

Laboratory Tests

On examination he was found to be in considerable distress, dehydrated, and he had a high leucocyte count. His stools were watery, yellowish, with a few flecks of undigested food but no gross blood. Stool was negative for occult blood. A few leucocytes were seen on the smear. His white blood cell count was 13,700 with 53% polys, 18% bands, 19% lymphocytes, 3% atypical lymphocytes and 7% monocytes; hemoglobin 15.2, hematocrit 43.8, platelet count normal. Urinalysis was normal. Blood glucose was 91 mg/dl. Creatinine 1.0. The electrolytes were normal.

An x-ray of the abdomen revealed nonspecific bowel pattern with no free air. He was started on 5 percent dextrose and Ringer's lactate and admitted to the ward.

Physical Exam

A physical examination revealed a young man in considerable distress. He was afebrile, pulse 70 regular; respirations 15/min.; blood pressure 106/60, falling to 88/60 on standing. In pain, he was holding his stomach. Head, eyes, ears, nose, and throat were normal. The tongue was coated and dry, but the breath was not offensive. Chest, heart, and lungs were clear to percussion and auscultation. Abdomen revealed a slight generalized tenderness especially in the epigastrium and in the right and left lower quadrants. There was minimal guarding, no rebound tenderness, and no organomegaly noted; bowel sounds were markedly increased. Rectal examination was negative.

Laboratory studies were initiated and the patient hydrated with Ringer's lactate and 5 percent dextrose. The patient's diarrhea persisted. The abdomen became a little distended, and the abdominal x-ray on July 28, 1988 (two days after admission) showed an increased quantity of air in the small intestines with multiple air-fluid levels but no extraluminal air collection. Psoas shadows were symmetrical and normal. The abdominal sonogram showed the small intestine diffusely distended with fluid and hyperperistaltic. The gall bladder, liver, pancreas, and biliary tree appeared normal.

Because of the persistence of the diarrhea and lack of positive cultures at this stage, a sigmoidoscopy was performed. This was reported as unremarkable. The biopsy reports showed slight nonspecific chronic inflammation with associated lymphoid aggregates. The patient was started on Ciprofloxacin on July 28 and was continued at a dose of 500 mgm twice a day. This seemed to have little effect on his diarrhea, which persisted albeit to a lesser extent until July 30 when, although he still had some diarrhea, his abdominal pain was less, his general condition and appetite improved, and he was taken off the intravenous fluids. Oral feeding was commenced and tolerated well.

Upper gastrointestinal x-rays and small bowel studies were performed before discharge; they were described as being unremarkable. A culture of the stool obtained on admission grew normal fecal flora and a scant growth of vibriolike organisms sensitive to ampicillin, gentamycin, cefazolin, tetracycline, and trimethoprim-sulfa. These were isolated on August 1 and finally identified by the Maryland State Health Department as *Vibrio hollisae*.

Studies for ova and parasites were all negative as were viral stool cultures and stool cultures for other enteric pathogens *Campylobacter, Yersinia*, etc. The stool was re-examined and was negative for blood, and the smear showed only a few leucocytes.

Comment

I believe this is an example of a non-cholera vibrio diarrheal infection. Information regarding possible ingestion of raw or partially cooked seafood was not obtained. No other crew members were ill, but it is the habit of Koreans to eat raw crab on occasion. A more recent episode of eight cases of profuse diarrhea occurred on a Korean ship in the port of Baltimore last October. They had ingested raw meat three days before from crabs bought in Jacksonville. The symptoms were clinically those of a vibrio type of infection and came on 12 to 36 hours after inges tion.

V. hollisae has been implicated with diarrhea in man from the ingestion of partially cooked or raw seafood, especially oysters.[1] Diarrhea and abdominal cramps are a feature of infections with this organism; sepsis is usually not. However, a case recently was reported of *V. hollisae* sepsis in a 65-year-old man (an alcoholic and diabetic) who consumed a catfish bought live and caught 115 miles upstream in the Mississippi. (This was unusual as the *Vibrio* is halophilic and the salinity of the water 80 miles downstream was 0.5 percent, the minimum needs for growth of this organism; but it was pointed out that catfish can travel this distance and are adaptable to varying salinity.[2])

Recently a case of cellulitis was reported of non-0:1-vibrio infection occuring in a man with varicose ulceration exposed to fresh water contact in a Colorado lake. The lake water yielded non-0:1 *V. cholera* identical with that found in the wound and bullous fluid from the leg lesions. This would appear to be the first human wound infection with *V. cholera* from contact with fresh water reported in the United States.[3]

The non-0:1 vibrios and those vibrios causing human disease apart from the classical *V. cholera* have only recently been recognized. They include *V. vulnificus, Vparahemolyticus, V. mimicus, V. alginolyticus, V. furnissi, V. hollisae V. damsela* and possibly *V. metschnikovii*. These vibrios are halophilic (except *V. mimicus*) growing in 0.7-3 percent saline and are found as active, motile, gram-negative organisms. They are found in warm coastal seawater and in brackish tidal estuarine waters and lagoons.

Human disease appears to be contracted by contact with or consumption of raw or partially cooked seafood. In the case of *V. vulnificus* local lacerations while cleaning shellfish or other fish or by contamination of wounds with infected seawater may lead to cellulitis and septicemia. Not infrequently death may result.[4] *V. vulnificus* infections also can result from ingestion of raw or partially cooked seafood.

Serious septicemic disease seems to be more common in persons with chronic liver disease and those who area immunosup pressed. [4,5] It would seem prudent that persons with the above conditions avoid raw seafood and use care in the handling and cleaning shellfish especially in warm coastal areas.

Recently a case was reported of a 60-year-old man who fell in the waters of the Inner Harbor in Baltimore after suffering a cardiopulmonary arrest. After resusitation he developed pneumonia and sputum cultures grew *V. cholerae* and *V. vulnificus* and the blood cultures, vibrio species. He recovered after treatment with tetracycline and gentamycin. The patient had a history of alcoholism.[6]

While most of the vibrios can cause gastrointestinal illness others such as *V. damsela* and *V. alginolyticus* commonly cause wound infections, and cases of alginolyticus and mimicus are often implicated in marine acquired ear infections. Even 0:1 *V. cholera* has caused wound infection, and the non-0:1 cholera vibrios have been responsible for the whole spectrum of gas trointestinal, ear, wound, and septicemic infection. *V. parahemo lyticus,* a very common cause of outbreaks of infectious diarrhea in Japan, has been implicated in outbreaks in the USA and in occasional wound and ear infections but rarely in cases of septicemia.

V. furnissii, V. hollisae and *V. fluvialis* all seem to cause mainly gastrointestinal disease. The latter organism

may be identified in hospital laboratories as *Aeromonas hydrophila* so underreporting of this organism probably has occurred.[7] The gastrointestinal illness these organisms cause is usually a severe profuse watery diarrhea, occasionally with leucocytes and blood in the stool. Diarrhea may be accompanied by low-grade fever and abdominal cramps that can be quite severe. Nausea, vomiting, and headache may occur. Incubation varies from a few hours to several days. The diarrhea and severe symptoms may last from 72 hours to six or seven days.[7]

Most diarrheal infections are self-limiting. Treatment includes prompt and adequate hydration. Most vibrios are sensitive to the tetracyclines, the third-generation cephalosporins, and trimethoprim-sulfamethoxazole. Our patient's *V. hollisae* was sensitive to mezlocillin, cefotetan, cefazolin, gentamycin, tetracycline, and trimethoprim-sulfa. Sensitivity to Ciprofloxacin was not tested.

Most of this group is not usually sensitive to penicillin or to ampicillin. Infections with *V. vulnificus* merit the prompt and vigorous use of an appropriate antibiotic such as tetracycline and an aminoglycoside.[7] The efficacy of the quinolones has not been established.

Infection with vibrios always should be suspected given exposure to marine environment in appropriate climatic conditions from swimming, working, playing, or ingesting raw or partially cooked seafood, when the presenting symptoms are those of gastrointestinal illness, wound infections, cellulitis, ear infections, or septicemia.[8] Cautionary advice regarding these activities should be given to those at higher risk of serious illness, such as persons with diabetes, liver disease, alcoholism, and immunosuppression .[1,8]

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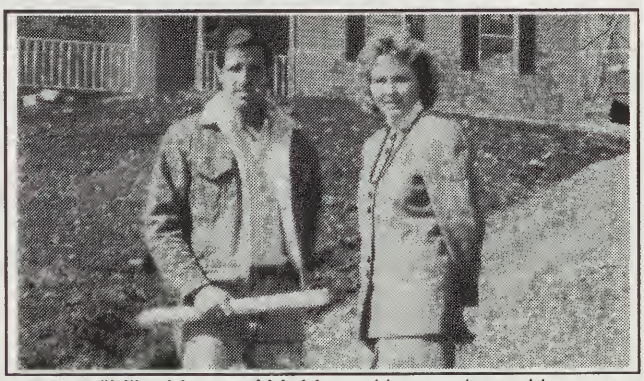
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A Transient Granulocyte Killing Defect Secondary to a Varicella Infection

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A varicella infection in a previously healthy young girl was complicated by bacterial sepsis, arthritis, and osteomyelitis in multiple locations. This secondary complication caused by Staphylococcus aureus *was associated with a transient defect in granulocyte function and an alteration in the representation of CD4 and CD8 positive lymphocyte subpopulation. The mechanism responsible for secondary bacterial infections following varicella may be due to transient defects in granulocyte function.*

An eight-year-old black female was admitted because of fever and pain in the left hip, thigh, and forearm. Ten days prior to admission, she developed a pruritic, papulovesicular rash diagnosed as varicella. The rash appeared in successive crops over the first six days of her illness. On the sixth day of illness, four days prior to admission, she experienced spiking fever and chills, unrelieved by aspirin. The day of admission, she refused to walk because of pain in the left hip, and on examination, swelling of the left thigh was noted.

Her past health was described as good, without previous serious illness or hospitalization. Immunizations for diphtheria, tetanus, pertussis, and poliomyelitis were complete. Her growth and development had been normal, and she was performing well as a third-grade student. She had no known allergies.

The family (mother, father, and six-year-old brother) were in good health. All had varicella over the previous month without complication, and none had experienced this infection.

Physical Examination

Vital signs upon admission were temperature of 39.5°, pulse 140/minute, respirations 31/minute, blood pressure 90/50 mmHg, and weight 20 kg. On physical examination the patient was oriented, but appeared acutely ill and dehydrated. The skin and mucous membranes were dry. There was a generalized crusted rash without evidence of suppuration. Lesions varied from 1 to 2 cm in diameter. One vesicle was found. The ears were normal. The tongue was coated. The posterior pharynx was clear and tonsils were present. The sclerae were icteric.

Funduscopic examination was normal. Her neck was supple,

and there was no cervical lymphadenopathy. The heart sounds were of good quality and without murmurs. The lung fields were clear to auscultation and percussion. No rales were heard. The abdomen was soft with a smooth, nontender liver edge that was palpable 3 cm below the right costal margin. There was no splenomegaly. Bowel sounds were normal. There was generalized tenderness to muscle palpation, most marked over the left thigh and left forearm. Pitting edema was present on both lower extremities. There was swelling and tenderness at the left hip with limitation of motion in all directions. All other joints had a good range of motion. Neurologic examination was entirely normal.

Laboratory Results and Methods

The white blood cell count was 2700 with 2% segmented neutrophils, 48% band forms, 40% lymphocytes, 4% monocytes, 4% atypical lymphocytes and 2% metamyelocytes. Review of the blood smear showed moderate toxic granulation and vacuolization of the segmented neutrophils. Hemoglobin was 7.7 gm% and hematocrit was 22.6%. The erythrocyte sedimentation rate was 115 mm/hr. Sickle test was negative. Serum electrolytes were Na 118 mmol, K 3.8 mmol, Cl 85 mmol, CO2 20 mmol/L.

Urea nitrogen was 26 mg/dl, creatinine 1.2 mg/dl, and glucose 121 mg/dl. Lactate dehydrogenase (LDH) was 723 U, aspartate aminotransferase (SGOT) 206 U, alanine aminotransferase (SGPT) 43 U, and creatinine kinase(CK) 4378 U. Ammonia was 65 mcg/dl. Total bilirubin was 3.2 mg/dl with direct bilirubin 2.0 mg/dl, and indirect bilirubin 1.2 mg/dl. Cold agglutinin titer was 1:32. Varicella titer was greater than 1:256.

A radiograph of the left hip and left lower extremity revealed soft tissue swelling in the region of the left hip, but no evidence of an osseous lesion. A chest radiograph obtained 12 hours after admission revealed diffuse bilateral infiltrates. There was no pleural effusion.

The assays of the ability of granulocytes to kill Staphylococcus aureus bacteria were performed as follows in the third week of her febrile illness. Granulocytes were obtained from a heparinized blood sample by mixing the sample with 6 percent dextran solution (1:1) and allowing the red cells to settle for 60 minutes at room temperature. The serum-dextran layer was removed from the red cells and centrifuged at 800 rpms for 10 minutes. The cell pellet was washed twice with RPMI-1640 (GIBCO, Grand Island, NY) containing 5 percent fetal calf serum (NABI, Lenexa, KS). After washing, the cells were resuspended in the same media so that there were 1 x 107 granulocytes/ml. The S. aureus bacteria used for the assay were harvested from growth media by an 8000 rpm centrifugation for 10 minutes and washed twice with distilled water. The bacteria pellet was resuspended to an optical density of 0.6 at 610 mu. This suspension was diluted 1:50 with the RPMI-FCS media which resulted in about 5 x 107 bacteria/ml. Autologous serum used for the assay was diluted to 20% with RPMI containing 5 percent FCS.

The assay was performed in 12 x 75 mm siliconized glass tubes to which 0.05 ml of the leukocyte suspension, 0.4 ml of the 20 percent autologous serum, and 0.1 ml of the bacterial suspension were added. The incubation mixture was rotated for 90 minutes at 37° C. At the end of this time, 1 ml of the mixture was added to 1 ml sterile distilled water, mixed and poured into TSP blood agar plates. The plates were incubated overnight at 37° C. Controls were assay mixtures, not rotated, and kept at room temperature for the 90 minutes. Colony counts were done on the agar plates and percent killing determined from these counts.

The determination of lymphocyte subset representation was carried out as described previously.[1]

Hospital Course

On the night of admission, surgical drainage of the left hip yielded purulent material with gram positive cocci on smear. Intravenous nafcillin, 200 mg/kg/day, was begun, and subsequently, cultures of blood and joint fluid were reported positive for *Staphylococcus aureus*. Following surgery, the patient remained acutely ill with continued spiking fever. The patient developed abdominal distention, with reduced bowel sounds, persistence of generalized muscle pain, hemolytic anemia, jaundice, and a generalized macular erythematous rash. Although she remained normotensive, her symptoms were otherwise compatible with the toxic shock syndrome secondary to a S. aureus infection, which is also suggested by the subsequent desquamation of her generalized erythematous rash. A technetium bone scan obtained the day after admission was negative.

The patient remained febrile while on antibiotic therapy specific to the organism. Except for the initial blood culture, all other blood cultures were negative. Since there was no drainage from the left hip, the joint was reopened and packed open. The patient was transfused to achieve a hematocrit of 24 percent. The patient remained febrile with daily temperature spikes to 39.5° C. Antibiotic therapy was changed from nafcillin to vancomycin(50 mg/kg/d) and gentamicin (7.3 mg/kg/dl) without any clinical improvement.

During the second week of hospitalization, the patient began to complain of pain in the left thigh, which was noted to be tender in both the medial and lateral aspects. Sonography demonstrated a fluid collection in the left thigh. Subsequently, a 240 cc volume of purulent fluid was aspirated from that site; it grew *S. aureus* on culture.

The patient continued to complain of buttock pain during the next several days. A gallium scan showed uptake in the right hip. Another aspiration of the right hip yielded 8 cc of purulent material. The patient then underwent surgery to open and drain the right hip abscess and to re-explore the left hip, which revealed

no retained purulent material. The right hip joint was noted to have destructive changes at this time.

Postoperatively, the patient was started on nafcillin(235 mg/kg/day), rifampin (23 mg/kg/day), and vancomycin(50 mg/kg/day), but still remained febrile. Repeat bilateral hip radiographs were done after one month of hospitalization and showed posterior dislocation of the right hip. A repeat technetium bone scan done at the same time showed increased uptake in the proximal left humerus, proximal left femur, and posterior left tenth rib. Re-exploration of both hips showed retained purulent material in the right hip. Neither femoral neck contained purulent material in the medullary canal. No purulent material could be obtained from the left proximal humerus.

The patient continued to be febrile until the sixth week of hospitalization. Her varicella hepatitis, as determined by a return to normal of serum bilirubin and liver enzymes, had resolved by the tenth hospital day. The pneumonia, as determined radiographically, resolved by the fourth week of illness. The patient's erythrocyte sedimentation rate became normal by the eighth month of hospitalization.

In the fourth month of hospitalization, the patient developed a pathologic fracture of the right femoral neck. At that time, arthrography of the right hip showed a pseudoarthritis at the point of the pathologic fracture and fusion of the femoral head to the acetabulum. She was then placed in bilateral hip spica casts.

The patient's hospital course was further complicated by a hepatitis B infection following blood transfusion of packed red cells. The units of packed red blood cells infused had been screened for antibodies and were negative. The patient was found to be hepatitis B surface antigen positive, and hepatitis B core antibody positive in her fifth month of hospitalization. Liver enzymes, which had been elevated on admission, were within normal range at one week, but became elevated again by the fifth month of hospitalization and remained elevated during her remaining period of hospitalization. After the first week of hospitalization, serum bilirubin levels were never elevated. She also developed hypercalciuria due to immobilization in her third month of hospitalization; it resolved by the seventh month.

Studies undertaken to evaluate host defenses in this patient may have contributed to her inability to respond to the infection. Hemoglobin electrophoresis was normal. Glucose-6-phosphodehydrogenase (G6PD) was 2.8 U/ml.Serum IgA was 260 mg/dl (Normal 50-232 mg/dl), IgG 1800 mg/dl (Normal 700-1550 mg/dl), IgM 110 mg/dl (Normal 12-40 mg/dl), determined in the second week of hospitalization. A serum sample taken prior to transfusion showed a passive hemagglutinin antibody titer to tetanus toxoid of 1:20480, which was normal.

Results from a blood sample taken three weeks into the hospitalization showed a white blood cell count of 4600 with 80% segmented neutrophils, 16% lymphocytes, 2% monocytes, and 2% eosinophils. Lymphocyte subset representation showed CD3+ T cells = 66%, CD2+ (rosette receptor T cells) 76%, CD4+ (helper/inducer T cells) 29%, CD8+(suppressor/cytotoxic T cells) 34%, and surface immunoglobulin positive B cells 13% (Table 1). The responses of her lymphocytes *in vitro* to mitogen stimulation showed a background tritiated thymidine incorporation of 541 cpm with a PHA response of 273,708 cpm, a Con A response of 119,052 cpm, and a pokeweed mitogen response of 121,486 cpm, all of which are normal. The results of a S. aureus bacterial killing assay using the patient's granulocytes showed no killing in a 90-minute assay, while cells from a normal control showed 75 percent killing in the assay (Table 2).

Since the patient had a lymphopenia, the absolute numbers for the lymphocyte subset representation were low, but the percent representations for each subset within a normal range with a reversal of the 4/8 ratio. The results of the bacteria killing assay were abnormal at this time during her acute illness. After 2.5 months of hospitalization, her granulocyte function was restudied. Metabolic activity, as judged by NBT dye reduction, showed normal resting activity and a normal level of increased activity during phagocytic activation (resting OD = .148, stimulated OD = .393, OD = .245). A bacterial killing assay at this time showed a 94 percent killing of *S. aureus* in a 90-minute assay, a normal level of activity.

Table 1. Results of Blood Sample taken Three Weeks into Hospitalization

WBC 4600/mm^2
% Lymphs 16
Absolute lymphocyte number = 736/mm^2

Cell Marker	Cell Type	%	Absolute Number
CD2	Rosette receptor Positive T cell	76	559
CD3	T cells	66	486
CD4	Helper/inducer T cells	29	213
CD8	Suppressor/cytotoxic T cells	34	250
Surface immunoglobulin	B cells	13	96

Table 2. Results of Bacterial Killing Assay: S. Aureus, 90 Minutes

		percent
February	Control normal individual	75
	Patient	0
April	Control normal individual	87
	Patient	94

Discussion

Varicella, a common, highly contagious viral infection, is usually a benign illness. However, there can be

an increased severity in neonates, immunocompromised children and adults.[2-4] Complications may occur in any patient with varicella, and several recent reviews have documented the frequency, severity, and age distribution in both previously healthy patients and those who are immunocompromised.[5-8] These complications fall into five general categories (Table 3): viral dissemination, post-infectious,bacterial infections, toxic encephalopathy (Reyes syndrome), and iatrogenic.

In younger, previously healthy children and with normal immune function, bacterial superinfections are the most frequent complications. Gram positive organisms, staphylococci, and streptococci are most frequently responsible for these infections.[3-8] While skin infections are seen most commonly, lymphadenitis, arthritis, osteomyelitis, pneumonia, and meningitis can occur.[8-13]

Although bacterial superinfection is recognized as a frequent complication in the healthy child, the reasons are unclear. A secondary bacterial infection of the pox lesion and skin may be caused by excoriation, which could result in bacteremia leading to generalized sepsis. Changes in host defense mechanisms have been identified in otherwise healthy patients with varicella that could predispose to bacterial superinfection. Recently, it was reported that gamma-interferon can influence granulocyte function. Any disruption of interferon production may result in a deficiency of granulocyte function. Such a disruption could be a consequence of an extensive viral illness.[14]

Patients in the acute stages of a varicella infection can show a reversal of the helper/suppressor cell ratio as was the case with this patient.[15] In normal patients with varicella, a difference has been shown in the ability of their lymphocytes to respond to varicella antigenic stimulation *in vitro*. Patients with mild disease had maximal lymphocyte responses immediately or within the first two weeks of illness, while those patients who developed meningoencephalitis had a delay in peak lymphocyte responsiveness.[16] These changes were not associated with an increase in bacterial complications.

Severe neutropenia and leukopenia of brief duration have been documented in a previously healthy patient with varicella.[17] Although bacterial complications did not develop the patient was treated with antibiotics.

Our patient showed evidence of impaired granulocyte function concomitant with bacterial superinfection. This deficiency occurred during a time when the viral illness resolved, but the bacterial superinfection with *S. aureus* persisted. During this time she received adequate amounts of appropriate antibiotics, and blood cultures remained sterile. However, despite therapy, multiple new sites of osseous infection appeared, and the patient remained febrile. She had no evidence of an immunodeficiency, a complement deficiency, T-cell abnormality, or underlying disease. Her granulocyte functional deficiency resolved in six weeks, and at that time, the bacterial infection was brought under control. These data suggest the varicella virus produced a transient secondary granulocytic functional deficiency by interfering with their bactericidal activity, which resulted in the protracted and complicated course of a serious S. aureus infection.

Table 3. General Categories of Complications to Varcella

1. Viral dissemination	
Pneumonia	Hepatitis
Meningoencephalitis	Arthritis
2. Postinfectious or autoimmune	
Arthritis	Polyneuritis
Thrombocytopenia	Nephrosis
Anaphylactoid purpura	Menigitis
Encephalitis	Myelitis
3. Bacterial infections	
Arthritis	Impetigo
Necrotizing fasciitis	Cellulitis
Osteomyelitis	Lymphadenitis
Sepsis	
4. Reyes syndrome (toxic encephalopathy)	
5. Iatrogenic	
Drug overdose	

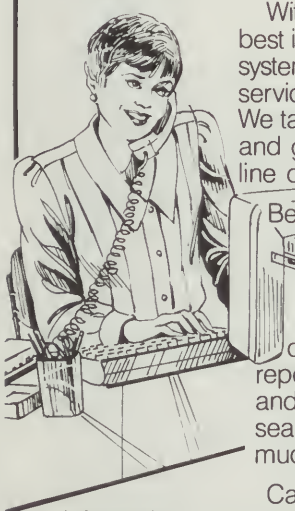
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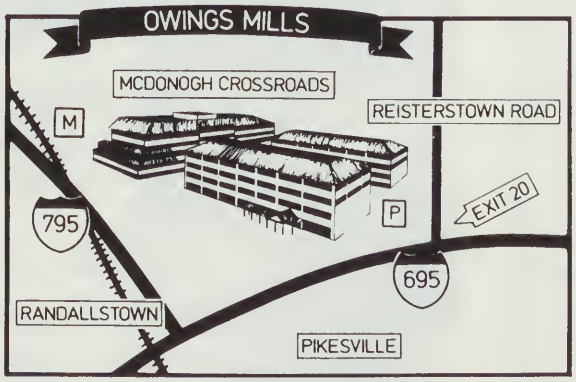
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Cardiac Transplantation in a Regional Center: Goals and Results at Two Years

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Cardiac transplantation moved from the realm of an investigational procedure to a therapeutic modality in the early 1980s. While one-year survival of 80 percent or greater can be expected, close follow-up is required to monitor for rejection, infection, and other late complications. With the need for close surveillance, both short and long-term, improved patient access to the transplantation center based on geographic proximity allows enhanced care by the original transplant team.

Cardiac transplantation as treatment for end-stage heart failure was initiated over 20 years ago. Enthusiasm for the procedure was quickly extinguished by dismal early results, and virtually all major programs had abandoned the operation by the early 1970s. The careful, persistent, and pioneering work of Dr. Norman Shumway and his colleagues at Stanford, however, proved the efficacy and utility of cardiac transplantation even before the introduction of cyclosporine. With such important developments as antithymocyte globulin, retransplantation for atherosclerosis, long-distance procurement, and endomyocardial biopsy, survival approaching 67 percent at one year was achieved.[1] With the introduction of cyclosporine in December 1980, one-year survival improved to over 80 percent.[2] Decreased morbidity from infection and other steroid-related complications allowed expanded patient selection.[3] These improved results led to a rapid dissemination of heart-tranplant programs across the United States to more than 130 in 1988.[4]

While the "ideal" number of centers performing heart transplant may be difficult to define, there are certain real and potential advantages for the regionalization of heart transplantation to local centers including

1. improved access for patients
2. better long-term folllow-up based on this proximity
3. heightened local awareness of organ transplant needs

If local programs perform cardiac transplantation with results comparable to large university based referral centers, the overall economic advantages as well as those just listed would encourage the maintenance of such regional programs. With these concepts in mind the Virginia Heart Center at Fairfax Hospital initiated a locally based cardiac transplantation program in December 1986.

Organization and Development

The cardiac transplantation program at Fairfax Hospital had its inception in June 1984, two-and-a-half years before the first car-

diac transplant was performed. The organizing physicians in the transplant team were a cardiac surgeon, an immunologist, and a cardiac pathologist. Subsequently this core of physicians expanded to a admit a number of other specialties including cardiology, infectious disease, and psychiatry. Representatives from nursing, hospital administration, dietary services, pharmacy, physical therapy, social work, security, public relations, and housekeeping were involved in planning at the earliest stages. Protocols were developed and put in place for both inpatient and outpatient care of the transplanted patient.

In this early stage, extensive on-site visits to several well-established heart transplantation programs across the country proved very helpful. To prepare and train the surgical team, the operations of both donor heart removal and subsequent transplantation were performed on human cadavers in the Fairfax Hospital morgue with the informed consent of family members. In addition, through the Washington Regional Transplant Consortium, intensive efforts were directed to (1) increase public awareness of the importance and need for organ donation and (2) to assist the medical community in transforming this awareness into more effective organ procurement.

Evaluation

Patients referred to the Virginia Heart Center at Fairfax Hospital with end-stage heart disease are evaluated in a systematic fashion for cardiac transplantation over a two to three-day period. Cardiac function of these patients initially is studied and optimized by transplant cardiologists along with concurrent evaluations by other members of the transplant team.

Cardiac catheterization is performed when needed, with special attention directed to the pulmonary vascular resistance. If elevated, its severity and potential reversibility are assessed by administration of intravenous vasodilators such as nitroprusside and prostaglandin E1. Significant and unresponsive elevation of pulmonary vascular resistance is associated with a high risk of early right heart failure in the donor graft, which is often fatal.[5]

Myocardial biopsy is performed when myocarditis is a potential cause of acute heart failure or to rule out systemic diseases such as amyloidosis or sarcoidosis. Consultants in infectious disease and immunology thoroughly review the patient's serology to evaluate past exposures, sensitizations that could lead to increased graft rejection and the need for pretransplant immunizations. Psychiatrists, social workers, and (if indicated) drug rehabilitation personnel carefully screen patients and their families to discover psychological, emotional, or social problems that might preclude cardiac transplantation. If other medical conditions coexist, appropriate additional specialists are consulted.

When the evaluation has been completed, the Heart Transplantation Review Committee reviews the history and findings of each consultant in detail to determine the appropriateness of heart transplantation for the patient. This committee includes consultants from cardiology, infectious disease, and immunology as well as representatives from surgery, social work, nursing, hospital administration, anesthesia, and the clergy.

Recipients

From December 1986 to March 31, 1989, 106 patients have been referred to Fairfax Hospital for evaluation as possible transplant candidates. Thirty-four patients were accepted for transplantation: 6 women and 28 men. All patients accepted for heart transplantation had documented evidence of severe left, right, or biventricular dysfunction. The severity of left ventricular dysfunction was manifested by a mean ejection fraction of 12 percent (range 5 to 20 percent). The etiology of heart disease was ischemic in 16, idiopathic cardiomyopathy in 14, valvular heart disease in 2, myocarditis in 1, and congenital heart disease in 1. Four of 34 patients accepted for cardiac transplantation died before an appropriate donor heart became available. Currently, there are 7 patients waiting who have been on the list for 1 to 8 months, and one patient was removed from the list for nonmedical reasons.

Twenty-two patients have undergone cardiac transplantation. The median waiting time for a donor heart was 41 days (range 1 to 213 days). The mean age of patients transplanted was 43 years (range 17 to 57 years). More than half the 22 patients receiving transplants (12) were dependent on one or more intravenous inotropic medications or the intra-aortic balloon pump while awaiting transplantation.

Twenty-one of the 22 donor hearts came from hospitals within our own geographic region with only one heart coming from a distant site in Ohio. The average donor age was 25.9 years with a range of 14 to 39 years. The mean period of time the donor hearts were deprived of coronary blood flow (ischemic time) was 1 hr 46 min (range 56 to 179 min).

Surgery

The operative technique for cardiac transplantation is basically that developed in the experimental laboratory nearly 30 years ago by Drs. Lower and Shumway[6] and later modified by Dr. Barnard.[7] After the ascending aorta is cross-clamped, one liter of cold crystalloid cardioplegic solution is delivered proximal to the clamp to preserve the donor heart. The heart is removed by dividing all the vascular connections. This initial cooling is maintained by packing the heart in cold saline-filled bags that are stored in ice during transport to Fairfax Hospital where the recipient has simultaneously been placed on cardiopulmonary bypass. Following excision of the recipient's heart, the donor heart is sewn into place with a series of four anastomoses joining the atria and great vessels. Inter-

mittent application of cold saline during the procedure is used to manintain preservation of the donor heart. No additional cardioplegic solution is administered. Swan-Ganz catheters and left atrial pressure lines are avoided in the recipient. The endotracheal tube, intravascular lines, the Foley catheter, and chest tubes are removed within 24 hours (if possible) to reduce the risks of infection.

Immunosuppression

The immunosuppressive protocol at Fairfax Hospital utilizes cyclosporine, azathioprine, and corticosteroids. The cyclosporine dose is adjusted according to blood levels, steroids initially are given in high doses followed by a gradually tapered dosage schedule, and azathioprine is started at 2 mg per kg with adjustment as needed based on the white blood cell count.

Patients undergo weekly endomyocardial biopsies in the first 8 to 12 weeks following cardiac transplantation. The frequency of biopsies then drops to once every three months by the end of the first year. Each biopsy specimen is stained with hematoxylin and eosin and is graded on a scale from 0 to 10.[8] For the first four weeks specimens are also stained for immunofluorescence to look for antibody mediated vascular or humoral rejection.[9]

Treatment of rejection is based on the severity of rejection and the interval following transplant. Options used to manage rejection include

1. augmented oral prednisone
2. intravenous methylprednisone
3. antithymyocyte globulin or monoclonal antibody, OKT3.

Emphasis is placed on individually tailoring the antirejection treatment to the specific situation to avoid excessive immunosuppression and the consequent increased risk of serious infection.

Outpatient Care

As most patients are discharged from the hospital two to three weeks following transplant, close outpatient follow-up is critical. Early focus is on the adjustment of immunosuppressive medication and close monitoring for signs of rejection or early infection. Patients are enrolled in comprehensive rehabilitation programs emphasizing exercise and proper diet. Management of hypertension is treated by decreasing the cyclosporine to the lowest dose that achieves a satisfactory blood level, tapering steroids where possible, and using specific therapy with the calcium channel blocker diltiazem supplemented by angiotensin-converting enzyme inhibitors, enalapril or captopril, as needed. Hypercholesterolemia is managed by a low-fat, low-cholesterol diet, decreasing steroids, and the addition of gemfibrizil as needed. Four months after heart transplantation, cardiac catheterization is performed and is repeated on an annual basis with special attention given to coronary angiography because of the risk of accelerated atherosclerosis in transplanted hearts.

Results

Twenty-two patients have received heart transplants at Fairfax Hospital; of these, 21 are survivors (95.4) (percent) from 2 to 27 months (mean follow-up, 13 months). One patient with severe biventricular failure and pulmonary hypertension died in the operating room from acute right heart failure of the donor heart. The other 21 patients have been discharged from the hospital. All patients have resumed an active life including full-time employment, school, or other gainful activity.

There have been 50 episodes of rejection; none were associated with hemodynamic deterioration. Thirteen of these (26 percent) occurred within the first four months after transplantation. When rejection occurred it was treated by one of the above-mentioned therapeutic regimes and reversed successfully in each instance. Two patients have had no rejection.

Serious infections requiring hospitalization and IV antibiotics have occurred 7 times. In addition, 20 infections were considered minor; nine were mucocutaneous herpes infections. The majority of infections (16) occurred within the first four months postoperatively. Eight patients (36 percent) have not had infections. There have been no deaths from infection. Malignancy has occurred in three patients. One patient had a small basal cell carcinoma removed from his nose. Two patients have developed lymphoma and are undergoing treatment including acyclovir and chemotherapy.

Discussion

The medical management of patients with symptomatic congestive heart failure has been frustrating and frequently futile. It has been estimated that nearly 200,000 patients die each year from congestive heart failure in the United States.[10] Depending on the degree of disability and the presence or absence of ventricular arrhythmias, one-year mortality in symptomatic patients can range up to 90 percent.[11,12] In a recent study of patients with profound congestive heart failure NYHA Functional Class IV, half the patients followed had died within a year and nearly two-thirds within two years.[11] Large multi-institutional trials of vasodilators, including hydralazine, isosorbide dinitrate, and enalapril, have shown promise but have not dramatically lengthened survival or significantly improved the quality of life.[13,14]

In contrast to the poor prognosis and marginal quality of life in patients with end-stage congestive heart failure treated medically, the results with cardiac transplantation have continued to improve. One year survival of 80 percent is expected, and better than 90 percent survival in the first year is not uncommon.[15]

Three-year survival is in the range of 70 to 80 percent.[16] Quality of life also improves dramatically. Patients nearly bedridden prior to transplantation are able to return to work, pursue their schooling, and spend time with their families and avocations. While there is need for lifelong immunosuppression, close follow-up, and occasional hospitalization, the vast majority of patients are extremely satisfied.

When cardiac transplantation was being developed, it was performed only in large research-oriented medical centers. With improving results, decreasing morbidity, and more accessible technology, cardiac transplantation has become a widely accepted therapeutic modality for end-stage heart disease. Excellent results were achieved and reported by private institutions in the 1980s.[17] The increasing number of such institutions performing cardiac transplantation within the vicinity of the patient's home has some distinct advantages related to proximity.[18] Families are relieved of the additional stress of having to relocate or of being separated from family members, finding themselves in unfamiliar surroundings, adding to the already significant stress of facing a heart transplant. After transplantation early and long-term follow-up is improved as the patient remains close to his/her transplantation center, eliminating hundreds of miles of travel for evaluation, biopsy, and follow-up. Referring physicians have better access to transplant physicians and are able to supplement care in the preoperative and postoperative period. Complications, such as infection or rejection, can be recognized quickly and treated in an expeditious and less costly fashion.Throughout their entire transplantation process, patients are in the familiar setting of home with family and friends nearby.

Increased donor awareness and a subsequent increase in the number of organ donors also has followed the establishment of a regional cardiac transplantation program in our area. The use of "local" donors for "local" patients has the advantage of decreasing the expenses associated with organ procurement as well as decreasing cold ischemic times, which limits myocardial injury.

We have shown that with careful preparation, a privately based regional cardiac transplantation program can achieve results equal to the best transplantation centers in the country, contrary to critics who fear poor survival in non-university based transplant programs.

These results further demonstrate that heart transplantation at a regional center such as Fairfax Hospital not only is less costly but also less disruptive for patients and their families. These benefits can lead to improved patient care and comfort as well as potentially increased survival.

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Addendum: Since this article was written, two additional cardiac transplants have been performed, bringing our total to 24 transplantation with 23 survivors.■

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Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
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- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
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Case Report: Hepatic Actinomycosis

Neil D. Goldberg MD, William C. Anthony MD, Michael C. Yen MD, and Shoab Hashmi MD

From the Department of Medicine, Maryland General Hospital. Dr. Goldberg is clinical assistant professor of medicine, University of Maryland, and Chief, Division of Gastroenterology, Homewood Hospital South. Dr. Anthony is Head, Division of Infectious Diseases, Maryland General Hospital and Church Home Hospice; and assistant Program Director, Department of Medicine, Maryland General Hospital; and Head of Nephrology, Maryland General Hospital.

Primary hepatic actinomycosis is seldom seen, and almost all cases have been diagnosed by laparotomy. Treatment with high-dose parental penicillin for prolonged periods is recommended. In the past concomitant surgical drainage also has been recommended, but the nonoperative success reported here and by others suggests that surgical drainage is not essential to the treatment.

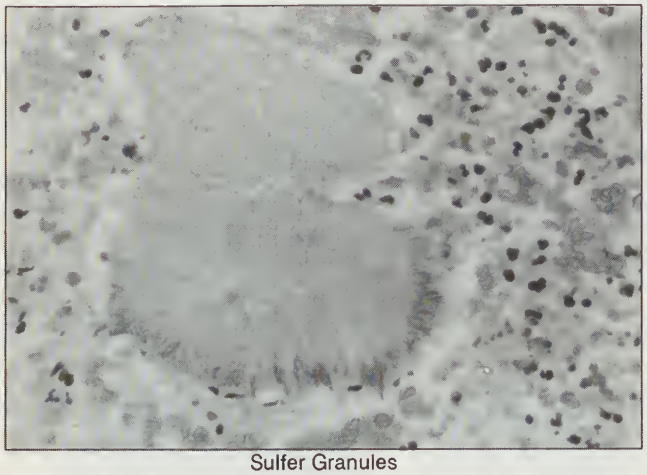
Primary hepatic actinomycosis is rare, and almost all cases have been diagnosed at laparotomy.[1] We report the case of a 38-year-old man who had chronic pancreatitis who presented with right upper quadrant pain, fever, and weight loss of three months duration. Ultrasound of the liver biopsy demonstrated multiple sonolucent defects with internal echos. Liver biopsy was diagnostic of actinomycosis. The patient responded to 90 days of high dose penicillin therapy.

The patient, an alcoholic with chronic pancreatitis, peptic ulcer disease, and internal drainage of a pancreatic pseudocyst three years ago, presented with a history of fever, weight loss, and right upper quadrant pain. The patient was on insulin NPH 10 units q.a.m. and no other medications. He admitted to heavy alcohol use up until three weeks before admission.

Physical examination showed his weight was 113 lbs, height of 5 ft 10 in and temperature was 100°. The examination demonstrated a cachectic, nonicteric black man, who appeared chronically ill. There was no peripheral adenopathy. Cardiopulmonary examination was unremarkable. The liver was 13 cms to percussion palpation in the mid-clavicular line with a smooth tender edge. The spleen was not palpable. No other masses were noted, but there was slight abdominal distension with hypoactive bowel sounds but no evidence of ascites. The stool was hemoccult negative.

Pertinent laboratory data showed white blood cell count (WBC) 12,400, SEGs 81, BANDS 1, lymphs 12, monos 3. Hematocrit 24.8, bilirubin 0.4 mgs, alkaline phosphatase 253 (normal 41-133), SGOT 21, SGPT 4, albumin 2.8, globulin 5.0, amylase 155, and sed rate 68.

Ultrasound of the abdomen demonstrated multiple sonolucent defects in both lobes of the liver with internal echos. These defects also were noted on liver and CT scans. Liver biopsy demonstrated a collection of PMNs, debris, and sulfur granules consistent with



Sulfer Granules

liver abscess associated with actinomycosis (see photo micrograph). Barium enema was unremarkable with normal appearing terminal ileum and appendix. Upper gastronintestinal and small bowel series showed loops of small bowel with fixed loops suggestive of multiple adhesions, but no mucosal abnormalities were evident. The patient initially was treated with aqueous penicillin G 9,000,000 units daily. After four days, the fever and right upper quadrant pain persisted and the pencillin was increased to 18,000,000 units daily; he became afebrile within 24 hours. The penicillin was continued for 90 days, and there was no recurrence of the fever. The patient gained 15 pounds. His albumin rose to 3.5. Follow-up liver and CT scan demonstrated no evidence of intrahepatic defects.

Discussion

Actinomyces israelii is a gram positive filamentous branching rod that grows best anaerobically, but many strains are microaerophilic and some grow aerobically.[2] Confirmation of actinomycosis is based on culture or the characteistic histologic appearance of sulfur granules in which branching bacilli are seen with brown and green stain.[3] Sulfur granules alone are suggestive but not diagnostic with similar structures seen in nocardiosis, aspergillosis, and coccidiomycosis.[4] The organism is an endogenous saprophyte inhabiting the mouth and the gastrointestinal tract. It invades deeper structures only when normal barries are disturbed.[5] The three main forms of the disease are cervicofacial, thoracic, and gastronintestinal. It presents as a chronic generalized inflammatory process with fever and leukocytosis. There is no racial or geographic predilection. Abdominal actinomycosis usually occurs in the setting of antecedent emergent laparotomy, appendicitis being the most common. In Putnam *et al.* analysis of 122 cases of abdominal actinomycosis, the liver was involved secondary to direct extension of the chronic suppurative inflammation. Portal venous spread is another presumptive route.

Primary hepatic actinomycosis is seldom seen. It is difficult to label our patient as being primary without laparotomy. His prior pancreatic pseudocyst drainage may well have been a predisposing factor. Treatment with high-dose parenteral penicillin (10 to 20 million units) for prolonged periods is recommended. Doxycycline is the alternative in pencillin-allergic patients. In the past concomitant surgical drainage has been recommended. The nonoperative success reported here as well as by Von Marion[1] suggests that surgical drainage is not essential to the treatment of hepatic actinomycosis.

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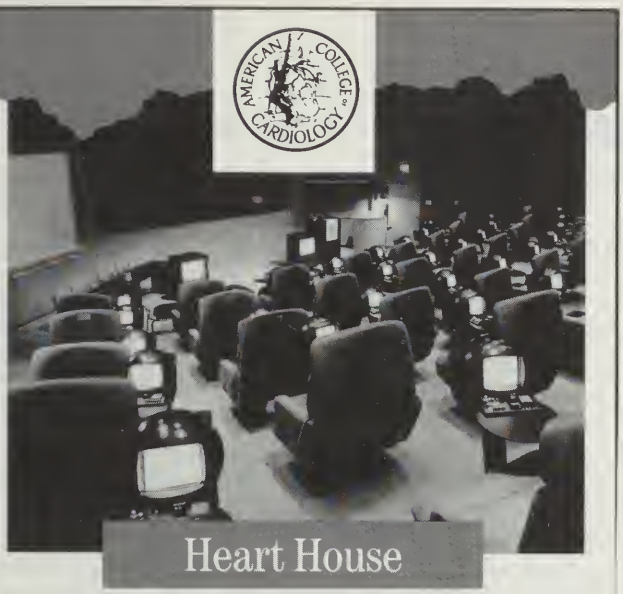
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Newer Concepts in the Management of Disseminated Prostatic Cancer

Cancer of the prostate is the most common cancer in males,[1] and the majority of the patients diagnosed as having cancer of the prostate are in advanced stages. Currently, the treatment of this group of patients is based on androgen deprivation by either orchiectomy or use of newer analogues of luteinizing hormone-releasing hormone (LHRH). Since the introduction of hormone dependency of the prostate cancer by Huggins and associates,[2] very little progress has been made in the therapy of disseminated prostatic cancer.

Recently the potential for achieving a "medical" castration using potent (LHRH) analogues has been encouraging. These compounds stimulate endogenous gonadotropin and androgen release when administered acutely, but chronic therapy with pharmacological doses induces the paradoxical effect of inhibition. This appears to be a promising new class of agents for the treatment of various hormone dependent diseases, especially prostatic cancer.

The growth of prostatic epithelium depends on the presence of testosterone and 5-alpha-reductase. This enzyme converts testosterone to its active form, dihydrotesterone (DHT). The DHT binds to an androgen receptor and is carried to the nucleus where it binds to the nuclear chromatic to signal the synthesis of a particular protein. Removing the testosterone and retarding the growth of prostate epithelium can be accomplished by orchiectomy, suppressing of lutenizing hormone (LH), or blocking androgen synthesis or its effect at the cellular level.

Frequent low doses of LHRH and its agonists activate gonadotropin secretion. However, continuous infusion of LHRH causes inhibition of follicle - stimulating hormone (FSH) and LH. The suppression of serum LH and testosterone (T) will follow the initial stimulating effect. This temporary elevation of serum LH and T is responsible for initial flare reaction. However, by the fourth week of therapy with LHRH, the LH, FSH, and T levels will drop. The serum T lowered the level of castration (50 ng/ml). LHRH agonists are used clinically in disseminated prostatic cancer, cryptorchism endometriosis, and precocious puberty.

LHRH was isolated and characterized by Schally and associates in 1972.[3] It is a decapeptide that by substitutions of amino acids in the sixth and tenth positions may render agonists up to 100 times more potent than the parent compound. There are a number of LHRH agonists available.

Several multicentric intergroup studies randomizing disseminated prostatic cancer to either orchiectomy or to LHRH arrived at the following conclusions:

1. Endocrine therapy provides a dramatic response in Stage D2 prostatic cancer.[4-5]

2. No convincing study is available for the timing of therapy of disseminated prostatic cancer.

3. There is no evidence that endocrine therapy prolongs the survival of patients with stage D2 prostatic cancer.

4. LHRH has less side effects compared with other forms of endocrine therapy including diethylstibestrol. Furthermore, a depo-compound will eliminate the need for daily administration of these compounds.

However, the side effects of LHRH include impotence and flare-up of the symptoms. The flare reactions at the beginning of the therapy include increased bone pain, spinal cord compression, lymphedema, obstructive uropathy, and increased serum creatinine.

Another new concept of therapy of the disseminated prostatic cancer is total androgen blockage after orchiectomy or LHRH therapy using antiandrogen agents. These agents include flutamide, aminogluthatamide, and cyproterone acetate. Flutamide has been tried in various control studies. In a prospective, randomized study the effect of 750 mg of flutamide has been compared with 3 mg of daily diethylstilbestrol in the management of 40 previously untreated patients with disseminated prostatic cancer. It was reported that after 12 months, a response was demonstrated in 13 of 20 patients receiving flutamide as opposed to 8 out of 20 patients receiving diethyl stilbestrol. Although the difference was not statistically significant, the diethylstilbestrol arm of the study showed more severe side effects than did the flutamide arm.[6]

A prospective, randomized, placebo-controlled trial sponsored by the NCI compared to the effects of LHRH with or without antiandrogen. Six hundred seventeen patients with untreated disseminated cancer entered this study. The median survival for LHRH alone was 27.9 months; when antiandrogens were added the median survival was 34.9 months (Table). The flared reactions were not observed in combined androgen blockage arm.[7]

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Table. The NCI Intergroup Trial: Disease-free Survival and Actual Survival Times

	Leuprolide + Placebo (N=303) (Months)	Leuprolide + Flutamide (N=308) (Months)
Disease-free progression	13.9	16.5
Median survival	27.9	34.9

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Music Medicine Clearinghouse-Progress Report

In September, 1988 the International Clearinghouse for Resources and Publications on the Medical Problems of Musicians was established by the Medical and Chirurgical Faculty's House of Delegates. The Music Medicine Clearinghouse is staffed by a professional librarian and guided by an advisory board of local physicians with interest and experience in the field of music medicine.

Among the initial board members were physicians with ties to a performing arts medicine interest group at The Johns Hopkins University Medical Center, the Baltimore Symphony, the American Occupational Medical Association, and the International Arts-Medicine Association.

Music medicine is a relatively new field, having emerged within the last ten years. Publications concerning medical problems of musicians, however, date back several hundred years and are widely scattered throughout the medical, musical, and popular literature. Until recently there was very little cross-fertilization between the two disciplines. A journal, *Medical Problems of Performing Artists*, now in its third year of publication, has begun to bring researchers and information together. Prior to the establishment of the Clearinghouse, however, there was no single, centralized source for this information.

The primary mission of the Clearinghouse is to gather, organize, and disseminate information on musicians' medical problems to physicians, musicians, allied health personnel, and researchers. The collection will encompass published information of all types: books, periodicals, audiovisuals, rare and historical items, and archival materials. The collection will include both traditional and alternative therapies. The information will be made available as widely as possible, both in print and computerized forms. The collection is expected to be a catalyst for further research and publication. The Clearinghouse will be a vital force in cooperation among related arts medicine organizations.

The nucleus of the Clearinghouse is a collection of more than 500 reprints, about a dozen books, and a large file of ephemeral material. It includes brochures, newsletters, fact sheets, handouts, and several video and audio tapes. The goal is to acquire an original copy of every related publication.

The Clearinghouse has a nearly complete file of the International Arts-Medicine Association's newsletters, including several special supplements, and other information about this organization. The National Flute Association's Dysfunction Committee is represented by a brochure and information developed for presentations and exhibits. There are files of advertizements for past and upcoming music medicine conferences. The Clearinghouse also maintains a list of arts medicine clinics throughout the country, as well as brochures and newsletters from some of them.

The Clearinghouse provides an ongoing bibliography of citations dealing with music medicine and prepares subject bibliographies on specific subtopics. A version of the bibliography appeared in *Medical Problems of Performing Artists* in 1987, with one update in 1988.

The bibliography is being further computerized, allowing faster, easier preparation of subject bibliographies and the ability to provide updating services to those who regularly use the bibliography. Since the database includes medical, musical, and popular literature, it is unlike any other currently available. Quality control is ensured because the Clearinghouse maintains a copy of everything in the database and the contents of each item is verified before entry.

The Clearinghouse has a section on the Medical and Chirurgical Faculty's Computer Bulletin Board (MedSig) where physicians can discuss the new field of music medicine. Information about conferences, short bibliographies, and other files will be available through the bulletin board. It is also an opportunity for musically inclined computer buffs to advise the Clearinghouse of new publications and materials for the collection.

The Clearinghouse staff and board are working to broaden the collection and publicize its value. A Clearinghouse brochure was distributed at the Conference on Wellness for Performing Musicians sponsored by Catholic University in January and at a Montgomery College pedagogy workshop in May. There will be a Clearinghouse exhibit at the National Flute Association's annual conference this summer.

Three of the biggest names in the field of music medicine have visited the Clearinghouse since its founding. Alice Brandfonbrener MD, of Chicago appeared at the Clearinghouse dedication in September as part of a larger Arts Medicine Weekend in Baltimore. She called the collection the only one of its kind in the nation.

The Clearinghouse hosted Dr. Hunter Fry, an Australian specialist, at a January luncheon. Local physicians and musicians had an opportunity to discuss his work and issues in the developing field of music medicine.

The Clearinghouse sponsored a program on "Special Problems of Instrumental Musicians" at the Medical and Chirurgical Faculty's Annual Meeting, with Richard Lederman MD, a neurologist from Cleveland, as the speaker. The Clearinghouse also maintained an exhibit.

The Clearinghouse is working cooperatively with the International Arts-Medicine Association to develop a system of arts medicine information

management. The Clearinghouse Coordinator serves on the IAMA's Information Management Committee. The Clearinghouse and the IAMA currently are exploring possible liaison activities between themselves and with a number of other interested organizations.

In June the Clearinghouse Coordinator visited the Miller Institute, a performing arts clinic in New York City. Their staff has benefitted from Clearinghouse products and have contributed new information to the collection. Other visits with similar institutions are planned.

In August the Coordinator will attend the Medical Problems of Musicians and Dancers Symposium in Colorado and the National Flute Association Annual Conference in New Orleans. The Coordinator serves on the NFA's Dysfunction Committee and will make a presentation during the Committee-sponsored workshop. The conference will feature an exhibit she developed on hand injuries.

The Clearinghouse has much to offer those interested in the field of music medicine. Musicians usually do not have access to a medical library and often are intimidated by the technical language. Physicians often do not have access to a music library. When they do venture into one, they can be frustrated by the relative lack of computerization and extensive indexing they have come to depend on in their own field. Allied health personnel often do not have a library geared specifically to their needs and hope for some relevant mateials in a medical, nursing, or academic library. Those interested in alternative, holistic therapies usually must do their own information analysis from many disparate sources. Even researchers who are very familiar with libraries can become discouraged going from one to another in trying to access a large number of specialized resources.

Clearinghouse services are making a positive impact. Reprints and bibliographies have been sent to countries as far away as Yugoslavia. Several physicians have called back to say how helpful the information received was in treating specific patients. Occupational therapists, music therapists, and a number of musicians have expressed their appreciation.

The Clearinghouse is fast becoming the primary source for information related to music medicine. Such information is often the key to the treatment of ailing musicians. It is also essential for developing prevention strategies as musicians, music teachers, and health professionals try to deal with potential problems before they occur.

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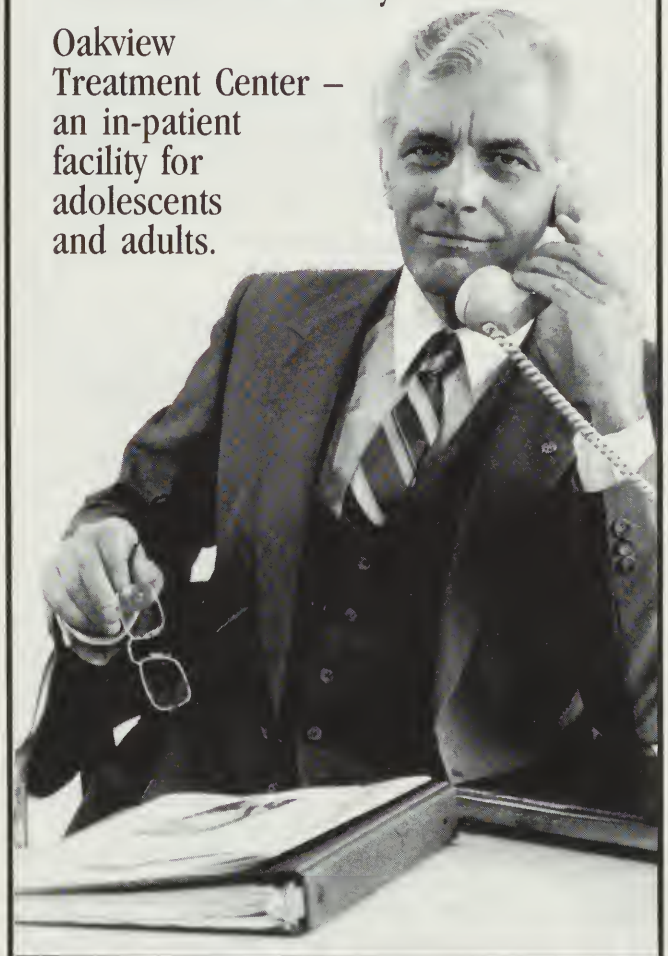
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Example of a Generic Screen Failure

Generic screens *are quality assurance critieria that are applied to every case under review. The purpose of each screen is to identify a potential adverse patient outcome.*

The case of a confirmed quality problem presented last month involved a 66-year-old woman who sustained "trauma suffered in the hospital" because of full thickness skin loss from tissue damage at an IV site. This was considered a possible quality-of-care problem, raised by a failure of "generic screen 6" on record review. What are screen failures? What is "generic screen 6?"

Health Care Financing Administration (HCFA) requires that all cases in which the charts show evidence of trauma suffered in the hospital be identified by the nurse reviewers. This is a "generic screen failure." (The term "generic" is used in the sense that this is a general class of events to be specifically reviewed.) If a quality of care problem is suspected, the case is referred to a physician advisor for evaluation. The physician advisor then has the responsibility to see whether the trauma was a result of poor care. "Generic screen 6" includes the following seven elements, or forms of trauma:

1. Unplanned surgery that includes, but is not limited to, removal or repair of a normal organ or body part (that is, surgery not addressed specifically in the operative consent)
2. Fall
3. Serious complications of anesthesia
4. Any transfusion error or serious transfusion
5. Hospital acquired decubitus ulcer and/or deterioration of an existing decubitus
6. Medication error or adverse drug reaction*
   a. with serious potential for harm
   b. resulting in special measures to correct
7. Care or lack of care in serious or potentially serious complications

Who Is Liable for Denied Care?

Each time an admission or continued stay is denied under Section 1862 of the Social Security Act, it is the responsibility of the PRO to determine if the hospital, the patient, or Medicare should be liable for payment. In most cases, Medicare already has paid the hospital. It is assumed the hospital will be liable for most denied days or denied admissions, as they have active utilization review and knowledge of medical necessity and the criteria of the Delmarva Foundation for Medical Care, Inc.

An exception exists if the hospital has notified the patient, in writing, that the admission or continued stay is not covered; in this case the patient will be liable. A second exception occurs when it is clear the hospital could not have known the care would be denied, in which case the PRO has the authority to waive the hospital's liability and allow for Medicare payment. Cases where the hospital could not have known the care would be denied are extremely rare; however, an example may be the case where a regulation changed to exclude payment for a certain procedure and the case was reviewed after the change date.

Use of the Physician Identification Number

During the past two years, the Foundation has discovered very frequent use of wrong physician identification numbers. This results in unnecessary paperwork for the physician; it also results in inappropriate data about patterns of care for a given physician. Sometimes these mistakes can be picked up at the time of actual chart review. However, when review is done on a sampling basis and findings compared to other data, a physician's practice pattern may be significantly distorted.

As medical review systems rely more and more heavily on data systems for patient identification, it becomes increasingly important that accurate physician identification numbers be used as a means of identifying those patients for whom each physician *actually* provides care.

The PRO urges all physicians and medical records and billing systems personnel to monitor closely the use of this important element in the medical data system.

PRO Update is contributed by the Publications Committee of the Delmarva Foundation for Medical Care, Inc. (Donald Harting MD, MPH, Chairman; Carol Lewis MPH, ScD; Jan Melhunak MHS) in cooperation with the Med Chi Peer Review Organization (PRO) Monitoring Committee, John Singer MD, Chairman. ■

Comments from physicians regarding the impact of these regulations on the quality of care delivered to patients are welcomed by the Editorial Board.

* See case example in last month's *MMJ*



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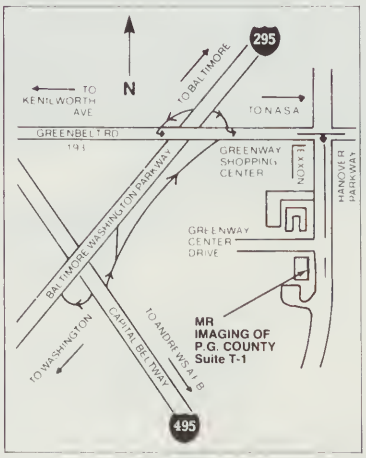


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How Do You Tell Someone On Medicare She's An "Expenditure Target"?



Right now in Washington, a Congressional committee and the Bush Administration are toying with a new idea.

It's a system of explicit "expenditure targets" for the Medicare program.

The aim of this idea is to cut expenses. The result is that it will cut care.

What it amounts to is nothing less than an elaborate dis-incentive for treatment.

Instead of assuring access to vital health care services, this plan will accomplish the exact opposite. It will lead to the rationing of care.

The system calls for a national yearly target for spending on vital health care services. And after the target amounts are reached, the services would have to be reduced. This would be a disaster for older people.

Originally, Medicare was a golden promise that was made to all Americans.

We ask the Congress and the Bush Administration to keep the faith of that promise.

American Medical Association

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SO WE CAN HOLD THE PREMIUMS DOWN.

Baltimore City Medical Society

BCMS Foundation, Inc., Awards

The Baltimore City Medical Society Foundation, Inc. presented $6,000 in scholarships for the 1989-90 academic year to five Baltimore City residents attending medical school. The awards are given out yearly from funds donated to the Foundation by Baltimore City physicians, their families, and friends. Any permanent resident of Baltimore City enrolled in a US medical or osteopathic school may apply for the scholarships, which are granted on the basis of academic achievement and financial need. Each applicant also must be endorsed by a member of the Baltimore City Medical Society (BCMS). Winners for the current year are Catherine McKesson, Saverio Mirarchi, Joseph W. Washington, Jeffrey A. Weaver, and Raymond B. Wynn.

Catherine McKesson was awarded the Elliott R. Fishel MD Memorial scholarship of $1,000. McKesson graduated *magna cum laude* from Towson State University in 1986 with a BS in Biology and Chemistry and a minor in Mathematics. A second-year medical student enrolled at the Medical College of Virginia, she is completing her second year of study at the University of St. Andrews, Scotland, in an exchange program. She will return to the Medical College of Virginia for her final two years and receive her degree there.

McKesson had received a Foundation award of $1,500 for the 1987-1988 academic year.

The scholarship is given in honor of Dr. Elliott R. Fishel each year by his family. Dr. Fishel was a native Baltimorean who served the community as a general surgeon for 35 years.

Saverio Mirarchi, a life-long resident of Baltimore City, was awarded the Nathan E. Needle MD Memorial Scholarship in the amount of $1,500 to support his medical training. Mirarchi graduated from The Johns Hopkins University with general honors in 1987 and was awarded a BA in Natural Science. He is a second-year medical student the University of Maryland Medical School.

The memorial scholarship is given each year in honor of Dr. Nathan E. Needle, the first Treasurer of the Foundation, by his wife. Dr. Needle was a general practitioner in Baltimore City, retiring in 1978.

Joseph W. Washington, A Baltimore City resident, was awarded a $1,000 scholarship for the 1989-90 academic year. An inhabitant of Baltimore for 30 years, Washington graduated from Morgan State University in 1982 with a BS in Biology and a minor in Mathematics. He is a third-year student at Howard University and intends to become a cardiologist.

Jeffrey Weaver, a Howard University Medical School student, was awarded a $1,500 scholarship. Weaver is a second-year medical student. He graduated *cum laude* from the University of Maryland with a BA in Biology and is a lifelong resident of Baltimore City.

Raymond B. Wynn, a native of Baltimore City attending Meharry Medical College in Nashville, Tennessee, was awarded a $1,000 scholarship. Wynn graduated *cum laude* from Howard University in 1985 with a BS in Radiation Therapy Technology. He is a third-year medical student.

The Baltimore City Medical Society Foundation, Inc. was established in 1972 by the members of the Baltimore City Medical Society to support Baltimore City residents attending medical school and to fund philanthropic enterprises in the community. In addition to providing the scholarships, the Foundation contributed $1,000 to Health Care for the Homeless of Baltimore City to buy needed medical supplies and $500 to the Baltimore Commonwealth to support summer jobs in health care fields for City youth. ■

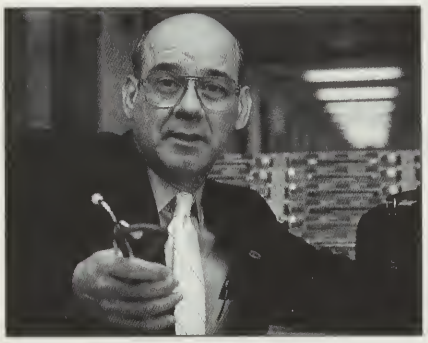
Baltimore County Medical Association

1988 Media Award

Ask the Doctor, the live call-in television show on Cable Channel 7, won the 1988 Media Award of the American Cancer Society. The award is given for the best cable programs regarding cancer education.

The two programs receiving the award were Cancer in Women, broadcast in January, and Cancer in Men, broadcast in February on Cable Channel 7. The "Ask the Doctor" program is produced by the Baltimore County Medical Association and is supported in a cooperative effort by Baltimore County General Hospital, Franklin Square Hospital Center, Greater Baltimore Medical Center, and St. Joseph Hospital.

This live call-in program is in its third year of production and can be seen on the first Wednesday of each month from 7:30 to 8:30 p.m. ■



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One Minute With Diabetes

Eating Out

Doctor, I do fairly well following my diabetic meal plan at home, but when I go out to dinner it seems everything goes wrong. What can I do?

It is easier to follow any meal plan when eating at home, and the same dinner (including tax and gratuity) will cost about ten times as much when one eats in a restaurant. Since current custom is to eat out of the home more often, we must adjust to it. If a cafeteria is available one can make food selections easily; following a diabetic meal plan causes little or no difficulty there. However, one does not like to go to a cafeteria for a birthday or anniversary dinner, so we must learn "restaurant eating."

Before Eating Out

1. Know your meal plan so that you can make the best choices from available foods.
2. Know the restaurant. Is it an ethnic food place (Mexican, Chinese, etc.)? Do they provide a wide-choice menu? Are all the foods deep-fat fried? It is best to select a restaurant that provides a variety of choices of meats and vegetables.
3. It is preferable to eat within an hour of the same time each day. If reservations are required this can be managed easily. If reservations are not accepted, arrive early as there is almost never an hour waiting time. Carry some crackers or raisins in case you feel a reaction might be coming on. If there is a long delay, speak to the manager about your need for diabetic care. I have never known a restaurant that will not give priority for a medical problem.

Making Food Choices

Appetizers: *Choose* clear broth, bouillon, consommé, tomato juice, fruit juice, fresh vegetables, or seafood cocktail. *Avoid* cream soup, thick vegetable-meat or vegetable soup, sweetened juice or canned fruit, anything marinated in oil.
Breads: *Choose* plain bread or toast, pita, roll, biscuit, crackers, bread sticks, hotdog or hamburger bun, or english muffin. *Avoid* sweet roll, coffee cake, danish roll, doughnuts (plain, iced, or jelly).
Fats: *Choose* butter, margarine, salad dressing, mayonnaise, cream, sour cream, or cottage cheese. Ask for the fat to be placed on the side so that you can adjust the amount needed. *Avoid* gravy, fried foods, creamed foods, whipped cream.
Salads: *Choose* tossed salad, tomato, lettuce, sprouts, or cucumbers. Any low-calorie vegetable will be suitable. For dressing use lemon wedge, vinegar, or a low-calorie dressing.
Sandwich: *Choose* sandwich of meats, eggs, poultry, fish, cold cuts, or hot dog; may be toasted, open-face, or broiled. *Avoid* oversized sandwiches, gravies, or excessive mayonnaise.
Eggs: *Choose* poached, fried, scrambled, deviled, or omelet. *Avoid* creamed eggs; if you have hypercholesterolemia, restrict eggs as directed by your meal plan.
Meat: *Choose* serving size as recommended in your meal plan. It should be braised, baked, broiled, or roasted. Trim all fat from meats, remove skin from poultry. Meat juices are allowed. *Avoid* fatty, fried, and breaded food; food in barbecue sauce or thickened gravy.
Starchy Foods: *Choose* mashed, baked, or steamed potato; corn, rice, or pasta. Starchy foods often are served in large amounts; limit consumption to your meal plan portion. *Avoid* fried, french fried, creamed, au gratin, or escalloped potato; sweet potato.
Vegetables: *Choose* raw, stewed, steamed, stir fried, boiled, or baked vegetables prepared without added fat. *Avoid* creamed, escalloped, au gratin, candied, or with sauces.
Desserts: *Choose* fresh fruit, angel food cake, sponge cake, pound cake (all cake to be without icing); or ice cream (small scoop), if in your meal plan. *Avoid* pies, pastry, doughnuts, danish roll, sweetened fruit, canned fruit, sundaes, pudding, custard; almost everything on the dessert trolley.
Beverages: *Choose* iced tea, coffee, tea, diet soft drinks, tomato juice, milk, buttermilk, skimmed milk, or club soda. *Avoid* chocolate milk, cocoa, ice-cream soda, milk shakes, regular soft drinks, or any beverage with unknown ingredients.

If the menu does not describe how a food is prepared, do not hesitate to ask the waiter. If the waiter does not know, the information can be learned from the cook.

Condiments (mustard, catchup, horseradish, garlic, etc.) can be consumed in reasonable amounts without concern about caloric content.

A problem often encountered when eating out is that during the interval between placing the order and the arrival of the food, one tends to consume an excessive amount of bread and butter or cheese and crackers. It is a temptation difficult to resist.

If you are invited to eat at the home of a friend, ask what is being served and about what time the meal will be served. A good hostess often will allow you to make suggestions as to your likes and dislikes in foods.

Dining out should be enjoyable. Remember your meal plan, and do not overindulge.

DeWITT E. DeLAWTER MD
Editor ■

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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

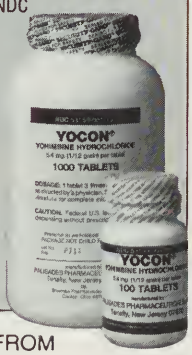
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

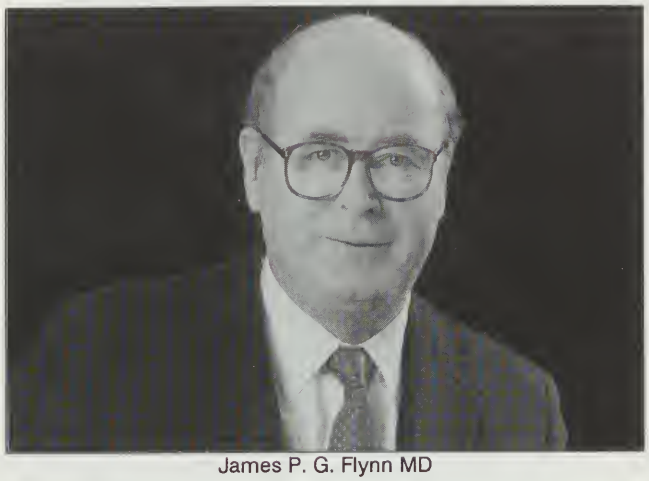
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James P. G. Flynn MD

James P.G. Flynn MD has been named acting director of the Shock Trauma Center, University of Maryland Medical System, succeeding *R Adams Cowley MD*, founder of the unit, who has become director of the Mathias National Trauma Study Center, established by Congress in 1986. Dr. Flynn will continue in this position until a national search committee chooses Dr. Cowley's permanent successor. He hopes to go beyond the course established by Dr. Cowley and to interact with all phases of the University of Maryland Medical System.

Having served as CEO of Montebello Rehabilitation Hospital for eight years, Dr. Flynn was one of a team responsible for shifting the facility's focus from chronic care to rehabilitation, enabling Montebello to provide rehabilitation services for many Shock Trauma patients with spinal cord, brain, and other complicated injuries.

Dr. Flynn received his medical degree with distinction in Medicine from Trinity College, Dublin University. He trained at The Johns Hopkins Hospital, Baltimore City Hospitals, Greater Baltimore Medical Center, and the State of Maryland Department of Health and Mental Hygiene. He earned masters degrees from Tritnity College and the Johns Hopkins University School of Hygiene and Public Health.

■ ■ ■

Wayne B. Leadbetter, a practicing Orthopaedic Surgeon and Sports Medicine authority in Rockville, MD and suburban Washington, DC, was awarded an Asian Traveling Fellowship in Orthopaedic Sports Medicine. The Fellowship is sponsored by the American Orthopaedic Society for Sports Medicine, a prominent leadership organization in Orthopaedic Sports Medicine to which Dr. Leadbetter had been elected. Chosen for his contributions and accomplishments in the study of pathophysiology and treatment of sports-induced injury, Dr. Leadbetter was the invited lecturer of the Japanese and Hong Kong Sports Medicine Societies during July.

Dr. Leadbetter is a past-chariman of the Orthopaedic Surgery Department at Shady Grove Adventist Hospital and is Medical Director of the Shady Grove Center for Sports Medicine and Rehabilitation.

■ ■ ■

Maryland Academy of Family Physicians

New officers of the Maryland Academy of Family Physicians were installed last May by Dr. James B. Jones, president of the American Academy of Family Physicians, during a ceremony at the Annual Banquet of the Maryland Academy at the Sheraton Ocean City Resort and Conference Center. The newly installed officers are: *Joseph W. Zebley*, III MD, president; *Lee E. Gresser MD*, president-elect; *Christine A. Marino MD*, treasurer; *Michael A. Moskewicz MD*, vice-president; *Anthony J. Bollino MD*, vice-president; and *Benito Martinez MD*, vice-president. Directors are *Kevin S. Ferentz MD, John B. Littleton MD, Christine L. Galan MD, Ben E. Oteyza MD, Abdul Nayeem MD, Richard Colgan MD, Robert Millman MD, and Francis C. Bruno MD. Dean H. Griffin MD* is delegate and *Rose Mary Hatem Bonsack MD* is alternate delegate to AAFP Congress.

■ ■ ■

The Maryland Thoracic Society

The Maryland Thoracic Society has elected its slate of officers effective March 1989-1991. Among them were *James P.G. Flynn MD*, immediate past-president; *C. Rodney Layton MD*, ATS representative councilor; and executive committee members *Floyd J. Malveaux MD* and *L. Dwight Wooster MD*.

The Maryland Radiological Society

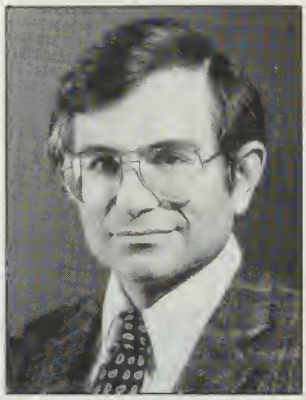
The Maryland Radiological Society elected the following officers for the 1989-1991 term: *Christopher M. Harvey MD*, president; *Larry Holder MD*, president-elect; *Allan P. Weksberg MD*, secretary; *John D. Reeder MD*, treasurer; and *Harry C. Knipp MD*, councilor.

Dr. Harvey, a graduate of Temple University School of Medicine, Philadelphia, completed his diagnostic radiology residency at The Bryn Mawr Hospital, Bryn Mawr, Pennsylvania. He is vice-president and full partner, Radiology Associates, PA, with offices in Towson, Cockeysville, Dundalk, and Baltimore City. During his tenure as president of the Baltimore County Medical Association, Dr. Harvey developed and initiated Project Together, which provided free or reduced-fee medical and dental care to the unemployed in Baltimore County at a time when the county was hard hit by the shutdown and layoffs at Bethlehem Steel and at the shipyards. The program was carried out in cooperation with the Baltimore County Health Department.

Dr. Holder received his MD from Washington University, St. Louis, Missouri, and completed his residency as well as a Fellowship in nuclear medicine at the University of Cincinnati Hospital, Cincinnati, Ohio. A past-president of the Maryland Society of Nuclear Medicine, Dr. Holder is Chief, Department of Radiology at The Children's Hospital and Center for Reconstructive Surgery, and Director, Department of Nuclear Medicine, The Union Memorial Hospital, both in Baltimore. ■



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Larry Holder MD

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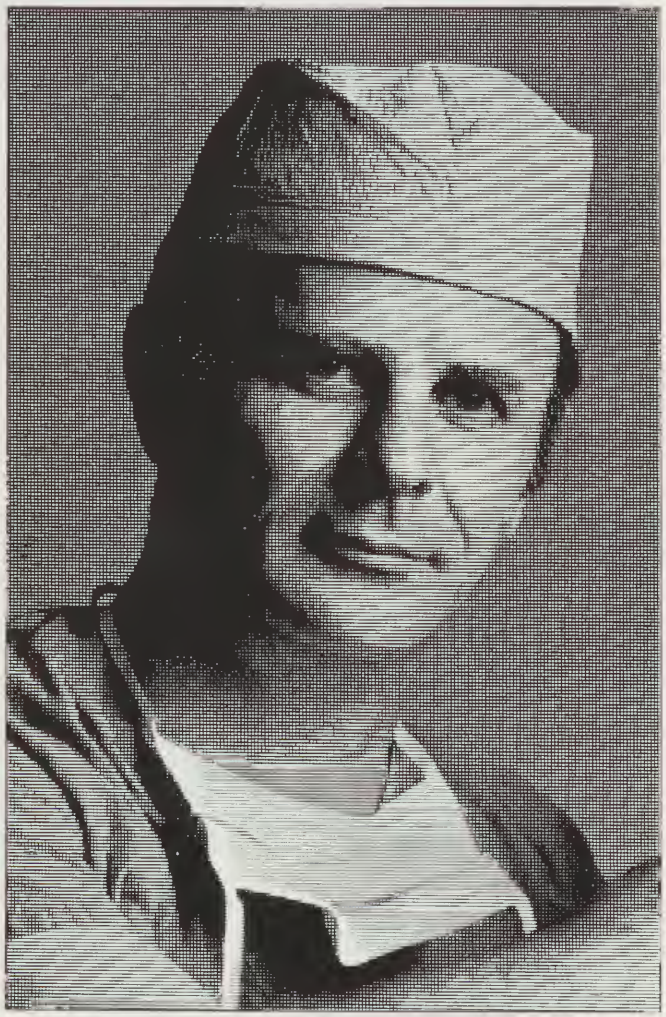
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September 15
Current Concepts in Ophthalmology: Ninth Annual Clinical Conference, Hyatt Regency Baltimore. Fee: $60; 6 AMA Cat I credits.

September 19-20
Behavioral Pediatrics Conference, UMAB MSSTF Auditorium. Fee and credits TBA.

September 21-23
Fifth Annual University of Maryland Contact Lens Symposium, Sheraton Inner Harbor Hotel, Baltimore. Fee: $160; 12 AMA Cat I credits.

October 12
Dean's Conference #1: How to Manage Common Emergencies - Part I, UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25*; AMA & AAFP credits available.

October 21
Ischemic Nitrates, Stouffer Harbor Place Hotel, Baltimore. Fee and credits TBA.

November 30
Dean's Conference #2: How to Manage Common Emergencies - Part 2, UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinician with current research and practice methods utilized at the University. Fee: $25*; AMA & AAFP credits available.

December 13
Dean's Conference #3: Common Medical Problems, UMAB Campus, Baltimore. Various medical topics designed to update the practicing clinicain with current research and practice methods utilized at the University. Fee: $25*; AMA & AAFP credits available.

January 25
Dean's Conference #4: Common Psychiatric Problems, UMAB Campus, Baltimore. Various medical topics designed to memet the needs of the community practitiner using current research findings and practices at the University. Fee: $25*; AMA & AAFP credits available.

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University of Maryland Dean's Conferences - Held monthly, these conferences are designed for the Family/General practitioner and the internist. Each conference highlights a different clinical department, placing emphasis on the practical methods currently being used and researched at the University of Maryland. **1990 Dates:** February 22, March 22, and April 26.

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Sep 13-15 - Instructor	Nov 16-17 - Provider
Oct 19-20 - Provider	Dec 14-15 - Provider

*Cost if special package plan (all seven courses for $175) used. Call for details.

MISCELLANEOUS MEETINGS

September 8

Symposium on Geriatric Medicine, cosponsored by Sacred Heart Hospital and Cumberland Area Health Education Center, at the Holiday Inn, Cumberland, MD. 5.75 prescribed AAFP credits as well as Cat I credits available. Info: K. Powell 301-777-9150.

September 8-9

Current Controversies and Techniques in Congenital Heart Surgery, sponsored by the Section of Thoracic and Cardiovascular Surgery of the University of Nebraska College of Medicine, Omaha. Precedes the Society of Thoracic Surgeons Annual Meeting in Baltimore. Info: T. Young 301-328-2399.

September 9-10

Review Course : American Board of Surgery Recertification Exam, cosponsored by the Maryland and Delaware Chapters of the American College of Surgeons. For surgeons taking the exam and others interested in a review of SESAP V. Henlopen Hotel, Rehoboth Beach, Delaware. Info: F.W. Walker MD, Program Chairman 301-836-0909 or 893-0433.

September 11-13

NIH Consensus Development Conference: Treatment of Destructive Behaviors in Persons with Developmental Disabilities, Masur Auditorium, Warren Grant Magnuson Clinical Center, NIH, Bethesda. Info: B. McChesney 301-468-6555.

September 23

Maryland Chapter of American College of Surgeons Annual Fall Meeting, Sheraton Inner Harbor, Baltimore, 8:30 - 12 noon, open to the medical public. Info: F.W. Walker MD, Program Chairman 301-836-0909 or 839-0433.

September 23

Psychiatry in the 90s - Anxiety: The Clinical Challenge, 9 a.m.- 4 p.m., Washington Plaza Hotel, sponsored by the Washington Psychiatric Society. Fee: $50 students and residents, $75 others. Special room rates available. Info: Washington Psychaitric Society 202-682-6270.

October 13

First Annual Trauma Conference - Peninsula General Hospital Medical Center; Sheraton, Salisbury, MD. Fee: $80; 8 AMA Cat I credits. Info: D. Kwiatkowski 301-543-7328.

October 18-19

Legal Medicine for Health Care Providers, Holiday Inn of Bethesda. Info: American Registry of Pathology, Armed Forces Insitute of Pathology, Washington, DC 20306-6000 (202-576-2978/2980).

October 20

Issues in Obstetrical Care, St. Francis Hospital Family Practice, 7th and Clayton Sts., Wilmington, DE 19805. Info: Dr. J. Rosenfeld 301-421-4906.

November 19-21

Fourth National Forum on AIDS and Hepatitis B: Targets of Opportunity, Strategies for Control, sponsored by the National Foundation for Infectious Diseases and organized with the assistance of the American Society for Microbiology, to be held at the Washington Hilton. Info: ASM Meetings, 1913 Eye St. NW, Washington, DC 20006 (202-833-9680).

Shady Grove Adventist Hospital, 9901 Medical Center Drive, Rockville, MD. Info: 301-279-6000.

Oct 5 Medical Malpractice Update
Oct 12 Psychopharmacology
Oct 19 Current Treaments of Allergic Rhinitis
Oct 26 GI Complications in the Critically Ill Patient

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All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

September 8-10 — **Diagnostic Ultrasound in Obstetrics and Gynecology and Abdomen**. Fee: $325 physicians (3 days), $250 nurses & sonographers (3 days); 6 AMA Cat I credits, ASRT credit, ACOG cognates pending. Info: D. Heydinger 301-955-2959.

September 11-13 — **Interventional Neuroradiology**. Fee: $550 physicians, $350 residents, fellows, and technicians (with letter from dept chairperson verifying status); 26.5 AMA Cat I credits. Info: F. Boling 301-955-2959.

September 21-11 — **Pediatrics for the Practitioner - Update 1989**. Fee: $225 physicians, $150 residents, retired physicians, and allied health professionals; 14.5 AMA Cat I credits. Info: J. Ryan 301-955-2959.

October 2-4 — **National Scientific Conference on Care of Alzheimer's Disease Patients and Families**. Fee: $50; 16 AMA Cat I credits, CEU for nurses and other appropriate credit pending. Info: F. Boling 301-955-2959.

October 11-12 — **Vernon B. Mountcastle Symposium - Neuroscience: Integrative Functions**. Fee: $50; 12 AMA Cat I credits. Info: 301-955-2959.

October 16-21 — **Thirty-first Annual Emil Novak Memorial Course: Gynecology, Gynecological Pathology, Endocrinology, and High-Risk Obstetrics**. Fee: $650 physicians, $450 residents and fellows; 44.5 AMA Cat I credits, 44 ACOG cognates. Info: C. Kearney 301-955-2959.

October 18-20 — **Industrial Hygiene Air Sampling for Safety Professionals**. Fee: $550, course limited to 30 participants. Info: J. Corn 3011-955-2609.

October 28 - Nov 2 — **The Second Annual Written Boards in Emergency Medicine: A Comprehensive Review**, Sheraton Towson Conference Hotel, Baltimore, sponsored by the Johns Hopkins Medical Institutions Department of Emergency Medicine. Fee: before 9/1/89, $575 physicians, $550 residents; AMA Cat I credits and other appropriate credit pending.

December 7-9 — **Second Annual Wilmer Institute Current Concepts in Ophthalmology**. Fee: $250, $200 (those in training); 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

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Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169. ■

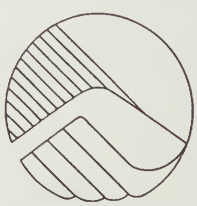
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from "The Sick Physician", a report to the Council on Mental Health adopted by the AMA House of Delegates, November 1972.

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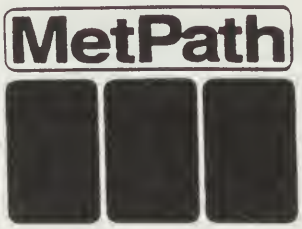
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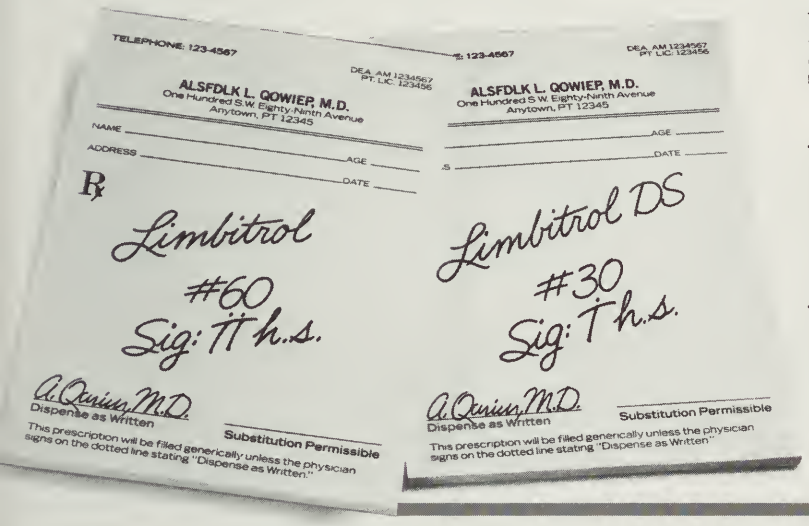
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Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.
Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.
Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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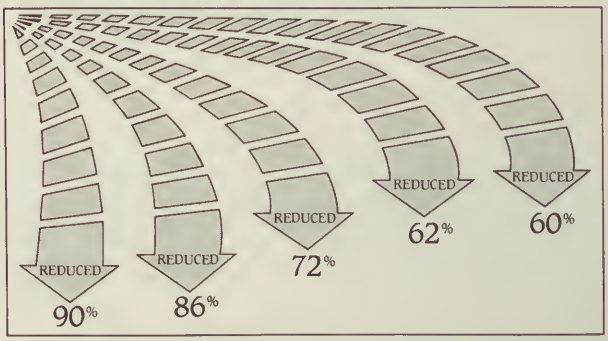
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- First-week reduction in somatic symptoms[1]

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*Patients often presented with more than one somatic symptom.

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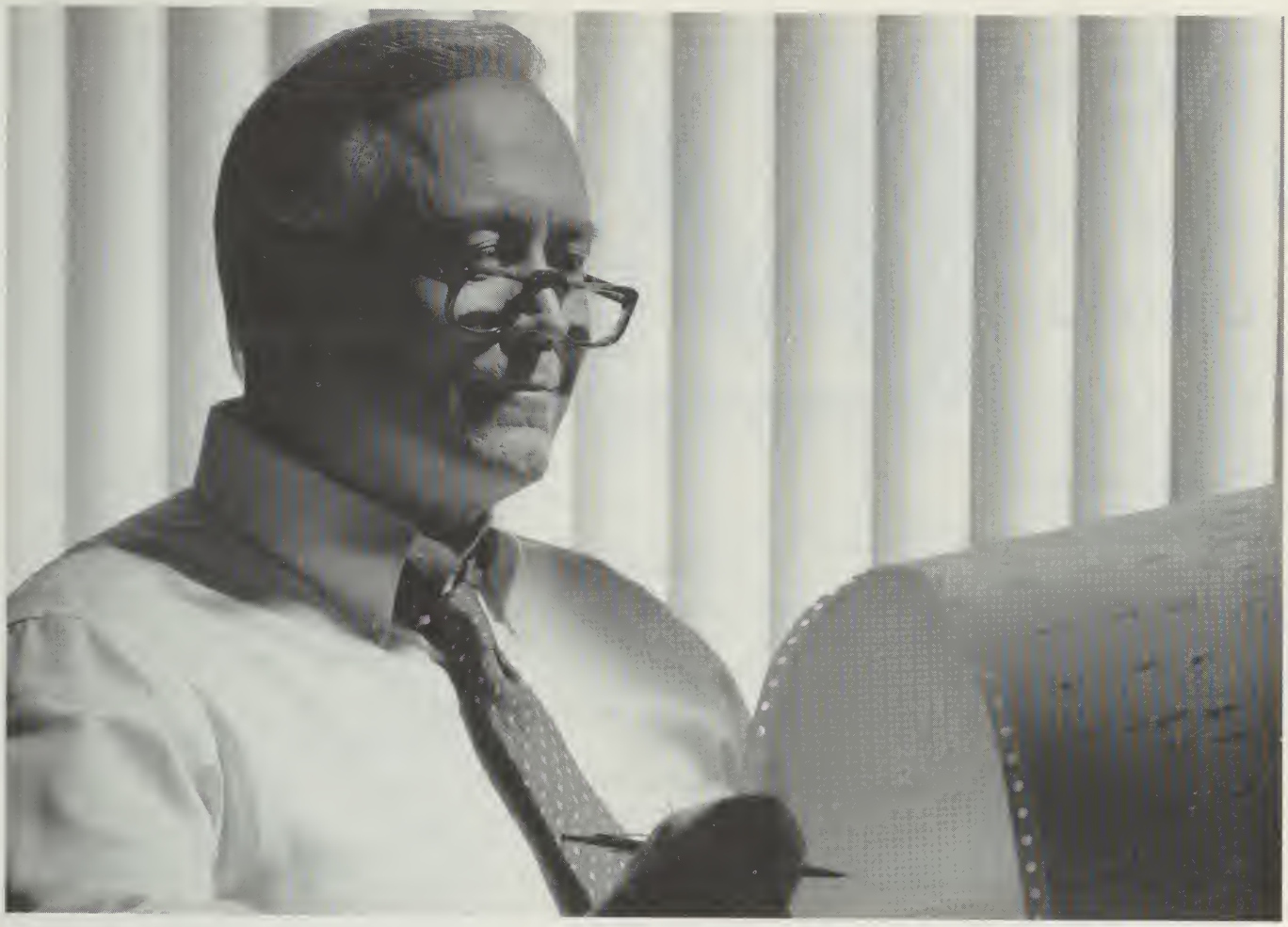
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Cover: A spleen survey of a malarious area, Flores Island, Indonesia. Photo: Dr. Suarto Kosin.

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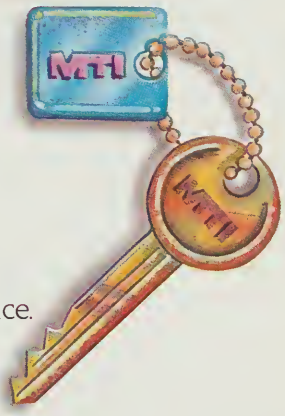
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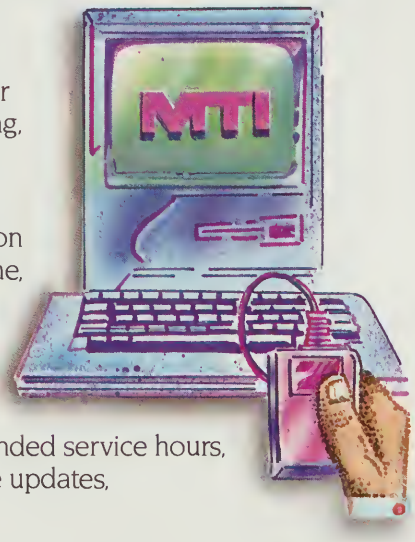


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OCTOBER 1989
Recommendations for Influenza Prevention

Although the cool December weather seems a distant thought, it is time now to plan influenza vaccinations for the coming season. During the last influenza season Maryland experienced widespread activity in the general public while seeing a decrease in institutional outbreaks over the 1987-1988 season. This article a) summarizes reported influenza during the 1988-1989 season, b) provides general information on the prevention and control of influenza, and c) includes a copy of the Important Information About Influenza and Influenza Vaccine, 1989-1990 (consent form) for use with the 1989-1990 influenza vaccine.

1988-1989 INFLUENZA SEASON

The 1988-1989 influenza season extended from December 1988 through April 1989. The Maryland Department of Health and Mental Hygiene (DHMH) Center for Clinical Epidemiology has conducted surveillance through: a) outbreak investigation, b) physician morbidity reports, c) school absenteeism reports to the local health departments, and d) review of laboratory isolates received by the DHMH Central Laboratory along with isolates submitted by private laboratories.

Thirty-two outbreaks of respiratory illness involving 824 cases were reported to the Division of Outbreak Investigation during this period. Facilities which reported outbreaks included 26 nursing homes, five state institutions, and one day care center. Seven of these outbreaks were laboratory-confirmed as due to influenza B (B/Victoria/2/87). One outbreak of influenza A was identified. No agent was identified in the 24 remaining outbreaks. Maryland physicians reported 579 cases with reports peaking in February and March. Excess (greater than 10%) absenteeism was reported by 19 of the 23 counties as well as by Baltimore City. There were 74 laboratory isolates of influenza virus consisting of 30 influenza A and 44 influenza B. Twenty- seven of the 30 influenza A were identified as A/Taiwan/2/86-like (H1N1), a component of the 1988-1989 influenza vaccine. Forty- three of the 44 influenza B isolates were identified as B/Victoria/2/87, also a component of the current vaccine. The four remaining isolates (3 influenza A, 1 influenza B) were either not subtyped or have been sent to the CDC for subtyping with results still pending.

PREVENTION AND CONTROL OF INFLUENZA

The U.S. Public Health Service, Immunization Practices Advisory Committee (ACIP), has published recommendations for the prevention and control of influenza for the 1989-1990 season (MMWR 1989; 38: 297-298, 303-311). That article deals with the use of the 1989-1990 influenza vaccine. Information on use of amantadine should be published in the

MMWR before the start of the 1989-1990 season. Immunoprophylaxis with inactivated (killed-virus) vaccine and chemoprophylaxis or therapy with an influenza-specific antiviral drug (e.g. amantadine) are the two measures available in the U.S. to reduce the impact of influenza. Of these, vaccinations of high-risk persons each year before influenza season is the most important method for prevention of both influenza A and B. Chemoprophylaxis or therapy with amantadine is effective only for influenza A. Vaccination can be highly cost-effective 1) when it is aimed at persons at high-risk for influenza complications or at higher-than-average risk for exposure and 2) when it is administered during a hospitalization or routine health care visit, thus making a special visit to a health care provider unnecessary.

Although yearly vaccination is the best means for influenza prevention, less than 30 % of persons in high-risk groups in the U.S. have received the vaccine each year. Increased use of the vaccine, especially in the elderly and other high-risk groups, could prevent many influenza-associated hospitalizations and deaths. Ten thousand or more excess deaths have been documented in each of 19 epidemics during 1957-1986; more than 40,000 excess deaths occurred in each of several recent epidemics.

TIMING OF VACCINE: The development of a protective response following vaccination takes about 2 weeks. Programs for administration of the 1989-1990 vaccine to high-risk persons should begin prior to the usual December start of the influenza season.

VACCINE COMPOSITION & DOSAGE: The 1989-1990 trivalent influenza vaccine contains a new group of antigens. Remaining 1988-1989 vaccine should not be used. See Table 1, below, for vaccine dosage recommendations, sources, and specific antigen content.

The Important Information sheet which follows contains important facts for you and your patients about who should or should not be vaccinated, dosage, and side effects. It also provides a convenient informed consent record. Even more detailed information appears in the MMWR article cited above.

TABLE 1. Influenza vaccine* dosage, by patient age — United States, 1989–90 season

Age group	Product†	Dosage	No. doses	Route§
6–35 mos	Split virus only	0.25 mL	1 or 2¶	IM
3–12 yrs	Split virus only	0.50 mL	1 or 2¶	IM
>12 yrs	Whole or split virus	0.50 mL	1	IM

*Contains 15 μg each of A/Taiwan/1/86-like (H1N1), A/Shanghai/11/87-like (H3N2), and B/Yamagata/16/88-like hemagglutinin antigens in each 0.5 mL. Manufacturers include: Connaught Laboratories, Inc. (distributed by E.R. Squibb & Sons Inc.) (Fluzone® whole or split); Parke-Davis (Fluogen® split); and Wyeth-Ayerst Laboratories (Influenza Virus Vaccine, Trivalent® split). For further product information call Connaught, (800) 822-2463; Parke-Davis, (800) 223-0432; Wyeth-Ayerst, (800) 321-2304. A fourth vaccine, manufactured by Evans Medical Ltd. and distributed by Lederle Laboratories (purified surface antigen vaccine), may be available for the the 1989-90 influenza season. Further information can be obtained from Lederle Laboratories, telephone [800] 533-3753.

†Because of the lower potential for causing febrile reactions, only split-virus vaccines should be used in children ("split virus" refers to viruses that have been chemically treated to reduce the level of potentially pyrogenic components). They may be labeled as "split," "subvirion," or "purified surface antigen" vaccine. Immunogenicity and side effects of split- and whole-virus vaccines are similar in adults when vaccines are used according to the recommended dosage.

§The recommended site of vaccination is the deltoid muscle for adults and older children. The preferred site for infants and young children is the anterolateral aspect of the thigh.

¶Two doses are recommended for children ≤12 years old who are receiving influenza vaccine for the first time.

IMPORTANT INFORMATION ABOUT INFLUENZA AND INFLUENZA VACCINE, 1989 - 1990

PLEASE READ THIS CAREFULLY

WHAT IS INFLUENZA ("FLU")? Influenza (or "flu") is a viral infection of the nose, throat, bronchial tubes, and lungs that can make someone of any age ill. Usually the flu occurs in the United States from about November to April. If you get the flu, you usually have fever, chills, cough, and soreness and aching in your back, arms, and legs. Although most people are ill for only a few days, some persons have a much more serious illness and may need to go to the hospital. On average, thousands of people die eash year in the United States from the flu or related complications.

WHO SHOULD GET INFLUENZA VACCINE? Because influenza is usually not life threatening in healthy individuals and most people recover fully, health officals emphasize the use of vaccine for the elderly and people with other health problems which make these individuals more likely to be seriously ill or to die from the flu or its complications. For example, people who after even light exercise become short of breath due to diseases affecting their heart or lungs, and people who have low resistance to infections, are likely to be more seriously affected by the flu. Thus, the following groups are at increased risk for serious illness with the flu and should receive vaccine:

- Adults and children with long-term heart or lung problems which caused them to see a doctor regularly, or to be admitted to a hospital for care during the past year.
- Residents of nursing homes, and other institutions housing patients of any age who have serious long-term health problems.
- Healthy people over 65 years of age.
- People of any age who during the past year have regularly seen a doctor or have been admitted to a hospital for treatment for kidney disease, cystic fibrosis, diabetes, anemia ("low blood"), or severe asthma.
- People who have a type of cancer or immunological disorder (or use certain types of medicines) that lowers the body's normal resistance to infections. (Because influenza might cause serious illness and complications in persons infected with the AIDS virus, these individuals should receive influenza vaccine.)
- Children and teenagers (6 months through 18 years of age) on long-term treatment with aspirin who, if they catch the flu, may be at risk of getting Reye syndrome (a childhood disease that causes coma, liver damage, and death).

(PLEASE READ OTHER SIDE)

Certain medical staff who provide care to high-risk patients in health-care facilities should be vaccinated, to reduce the possibility that these patients might catch the flu when receiving medical care. Family members or others who provide care to high-risk persons at home should also be vaccinated. The possibility for spreading the flu to high-risk persons can be reduced by vaccinating:

- Doctors, nurses, and others in both hospital and outpatient-care settings who have extensive contact with high-risk patients in all age groups, including children.
- Individuals who provide care to high-risk persons at home, such as visiting nurses and volunteers, as well as all household members, including children, whether or not they are providers of care.

In addition, a flu shot may be given to:

- Persons wishing to reduce their chances of catching the flu.
- Persons who provide essential community services.
- Students or other persons in schools and colleges if outbreaks would cause major disruptions of school activities.
- Persons traveling to the tropics at any time of the year or to countries south of the equator during April-September. (Persons with high-risk medical conditions and those ages 65 and older who are traveling as indicated above especially should be encouraged to receive vaccine.)

INFLUENZA VACCINE: The viruses that cause flu frequently change, so people who have been infected or given a flu shot in previous years may become infected with a new strain. Because of this, and because any immunity produced by the flu shot will possibly decrease in the year after vaccination, persons in the high-risk groups listed above should be vaccinated every year. This year's flu shot contains the strains A/Taiwan/1/86, A/Shanghai/11/87, and B/Yamagata/16/88 to provide immunity against the types of flu which have been circulating in the past year, and/or are thought to be most likely to occur in the United States next winter. All the viruses in the vaccine are killed so that they cannot infect anyone. Vaccine will begin to provide its protective effect after about one or two weeks, and immunity may decrease, on average, after several months. Flu shots will not protect all persons who get them against the flu. They also will not protect against other illnesses that resemble the flu.

DOSAGE: Only a single flu shot is needed each season for persons older than 12 years, but children 12 years or less may need a second shot after about a month. The doctor or nurse giving the flu shot will discuss this with parents or guardians. Children should be given only vaccine that has been chemically treated during manufacture (split virus) to reduce chances of any side effects. Split-virus vaccines can also be used by adults.

POSSIBLE SIDE EFFECTS FROM THE VACCINE: Most people have no side effects from recent influenza vaccines. Flu shots are given by injection, usually into a muscle of the upper arm. This may cause soreness for a day or two at the injection site and occassionally may also cause a fever or achiness for one or two days. Unlike 1976 swine flu vaccine, recent flu shots have not been linked to the paralytic illness Guillain Barre syndrome. As is the case with most drugs or vaccines, there is a possibility that allergic or more serious reactions, or even death, could occur with the flu shot.

WARNING-SOME PEOPLE SHOULD CHECK WITH A DOCTOR BEFORE TAKING INFLUENZA VACCINE:

- Persons who should not be given the flu shot include those with an allergy to eggs that causes dangerous reactions if they eat eggs.
- Anyone who has ever been paralyzed with Guillain Barre syndrome should seek advice from their doctor about special risks that might exist in their cases.
- Women who are or might be pregnant should consult with their doctor.
- Persons who are ill and have a fever should delay vaccination until the fever and other temporary symptoms have gone.

QUESTIONS: If you have any questions about influenza or influenza vaccination, please ask now or call your doctor before requesting the vaccine.

REACTIONS: If anyone receiving influenza vaccine gets sick and visits a doctor, hospital, or clinic in the 4-weeks after vaccination, please report this to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

Influenza 7/1/89

I have read or have had explained to me the information on this form about influenza and influenza vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of influenza vaccine and request that the vaccine be given to me or to the person named below for whom I am authorized to make this request.

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)

FOR CLINIC USE

Name (Please Print) Last First Initial _____ Birthdate _____ Age _____ Clinic Ident. _____

Address _____ City _____ Date Vaccinated _____

County _____ State _____ Zip _____ Manufacturer and Lot No. _____

Site of Injection _____

X _____ Date _____ Chronic Disease Yes ☐ No ☐

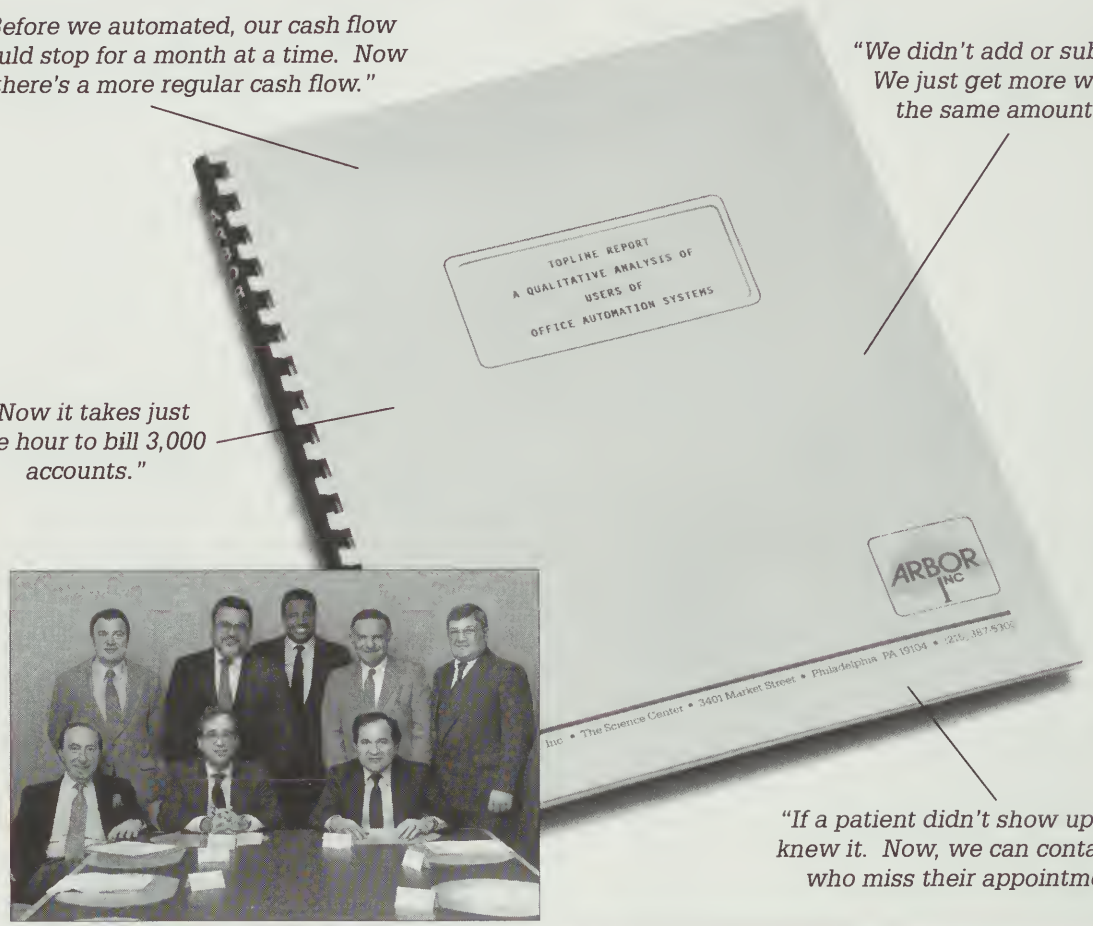
Signature of Person to receive (or person authorized to make the request)

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LEGAL AND ETHICAL CONCERNS OF YOUR MEDICAL PRACTICE

This monthly digest will summarize the laws of the State of Maryland, as well as the guidelines, procedures, codes of cooperation and policy statements of the Medical and Chirurgical Faculty. These laws and policies are being published to reflect recent areas of concern to physicians throughout the state. The Principles of Medical Ethics of the American Medical Association have been adopted as the ethical standards of the Medical and Chirurgical Faculty, and they govern the conduct of members in their relations to the public and to each other (Faculty Bylaws, Article XIV, Section 1). For more information, please refer to the Compendium of Laws, Regulations, Opinions and Policies Governing the Practice of Medicine in Maryland.

■ ■ ■

Release of Information

At its June 29, 1989 meeting, the Council adopted the following revised ethical opinion on "Release of Information":

Except as provided by law or as authorized by the patient, a physician should not release medical information about a patient to any person.

Physicians are reminded that, under Maryland law (Section 4-301 (b) of the Health-General Article of the Code), "any provider of medical care who has custody of medical records may not reveal specific medical information contained in those records to any person unless authorized by the individual on whom the record is kept." There are currently 11 limited circumstances under which this prohibition against disclosure without patient authorization applies. If you are releasing information without patient authorization, be sure that one of the following applies:

Medical information may be released if the provider of care is:

1. Performing medical services or allied support services for or on behalf of a patient.
2. Providing information requested by or to further the purpose of a medical review committee, accreditation board or commission, or in response to legal process.
3. Providing information required to conduct the proper activities of the health care provider.
4. Providing information to a government agency performing its lawful duties as authorized by an act of the Maryland General Assembly or the United States Congress.
5. Providing information at the request of a researcher for medical and health care research under a protocol approved by an institutional review board.
6. Revealing the contents of medical records under circumstances where the identity of the patient is not disclosed to the recipient of the records.
7. Providing information to an insurance company or to a defendant or the defendant's legal counsel, in connection with a potential or actual malpractice claim against a provider of medical care.
8. Providing information requested by another provider of medical care for the sole purpose of treating the individual on whom the record is kept.
9. Providing information to a third-party payor for billing purposes only.
10. Providing information to a nonprofit health service plan or a Blue Cross or Blue Shield plan to coordinate benefit payments under more than one sickness and accident, dental, or hospital and medical insurance policy other than an individual policy.
11. Providing information to organ and tissue procurement personnel under the restrictions of Section 5-408 of this Article at the request of a physician for a patient whose organs and tissues may be donated for the purpose of evaluating the patient for possible organ and tissue donation.

At the same Council meeting, the Committee on Professional Ethics was requested to specifically address, in the context of the revised ethical opinion on "Release of Information," the handling of telephone requests for release of medical information from utilization review agents of insurance companies. Additional clarification from the Committee on Professional Ethics is pending.

Ethical Opinion on Dissolution of Medical Practice; Termination of Physician Employee

The following Ethical Opinion on Dissolution of Medical Practice, Termination of Physician Employee was adopted by Council on February 12 1987:

DISSOLUTION OF MEDICAL PRACTICE; TERMINATION OF PHYSICIAN EMPLOYEE

When physicians dissolve a professional corporation or partnership, or when a physician group discharges a physician employee, the patient's best interest must be paramount, regardless of the dispute that may arise in such situations.

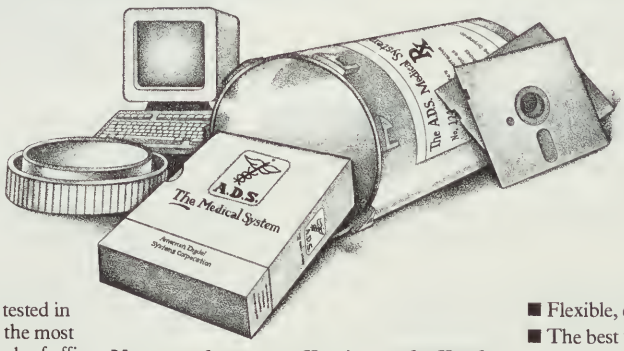
The notice of the change in providers should be a simple factual statement, provided to patients in a timely manner. It should indicate the date of the dissolution or discharge, the address, and telephone number of the physician(s) who will be available for continued patient care. If the departing physician(s) is (are) continuing practice, the address and telephone number of the departing physician(s), when known, should be made available to patients for continued care.

Appropriate instructions should be given to the office staff concerning the handling of patients' questions. Disputes concerning medical records should be resolved according to Ethical Opinion 104,* Medical Records. All physicians involved should act in a fair and professional manner. The patient must always have free choice of physician unless the patient has limited this right by contract with an alternative delivery system. (Council; 2/12/87)

The Committee on Professional Ethics has been requested by several physicians to clarify the ethical opinion on "Dissolution of Medical Practice; Termination of Physician Employee." Questions have arisen as to whether the remaining physician in a practice in which a physician employee has been terminated or in which the practice relationship has been terminated has an ethical responsibility to send written notices to patients of the departing physician or to provide patient lists to the departing physician. No such requirements of providing written notices to patients or patients lists are meant to be imposed under this ethical opinion. The focus of the opinion is to provide guidelines for physicians to ensure that the best interests of the patient are served and to preserve the right of the patient to freely choose the his\her physician. ■

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Executive Director's Newsletter

October 1989

Malpractice-Insurance Company Injunction

In June 1989, the Indiana Department of Insurance obtained an injunction against the Medical Liability Purchasing Group, Inc. of Indiana. This insurance group solicited physicians by mail to purchase malpractice insurance from an offshore company that had not been admitted to do business in any state.

A copy of the *Findings of Fact and Conclusions of Law* from the US District Court in Indiana is available on request from Med Chi (1-800-492-1056 or in Baltimore, 301-539-0872). Physicians are urged to be careful in selecting a malpractice insurance company.

ICD-9 Coding Requirement Extended

HCFA has agreed to extend the grace period for the new regulations requiring ICD-9 codes on all Medicare Part B claims until October 1, 1989. All claims with date-of-service October 1, 1989 or later submitted without a diagnostic code should be denied. Failure of physicians to comply with the requirement could result in monetary penalties of up to $2,000 per incident, or exclusion from the Medicare program. This decision means that, at the AMA's request, HCFA has provided six months of a grace period (April 1 to October 1) for "improperly" coded diagnoses. Also at AMA's request, HCFA has instructed its carriers not to deny claims for "improperly" coded diagnosis until at least January 1, 1990. This means that physicians will have an additional three months to become more familiar with the specifics of the coding guidelines.

To assist physicians in finding an appropriate diagnosis code, the AMA intends to publish abstracted sets of the ICD diagnostic codes based on specialty groupings as part of the CPT 1990 minibook series. The AMA has a limited number of ICD-9 codebooks available for $38.40, which may be ordered via Visa or Mastercharge by calling 1-800-621-8335.

Generic Substitution Ruling

In May the Maryland Board of Pharmacy issued the following ruling: Physicians will no longer be able to write "DISPENSE AS WRITTEN" to require that pharmacists dispense the brand-name drug. Maryland's Medical Assistance Program, in compliance with federal law, mandates that when a specific brand-name drug is to be dispensed, the prescriber must write in his or her own handwriting on the prescription form the phrase, "BRAND MEDICALLY NECESSARY" or "BRAND NECESSARY." Under the Maryland Pharmacy Law, Health Occupations Article, Section 12-508(b)(1) Annotated Code of Maryland, the phrase "DAW" or "DNS" will not require the pharmacist to dispense the

brand name. This ruling (effective July 1, 1989) applies to all prescriptions for Medical Assistance beneficiaries.

Expenditure Targets

Med Chi thanks all its member physicians, component societies, and the Med Chi Auxiliary who wrote and phoned the Maryland US Representatives during Med Chi's drive to defeat expenditure targets. To order a summary booklet about Med Chi's expenditure targets campaign, contact Med Chi's Public Relations Department at 1-800-492-1056 or 301-539-0872 in Baltimore.

Clarifications

In the August 1989 issue of *MMJ*, Charles F. O'Donnell MD, Baltimore County Past President, Med Chi Past President and past AMA Delegate, appeared unidentified in a photograph with Dr. Roland Smoot (see page 657). Med Chi is proud of Dr. O'Donnell's contributions to organized medicine and to his community.

On page 723 of *MMJ's* September issue, the photograph of Montgomery County Medical Society President Cheryl E. Winchell MD was labeled as President-Elect. She assumed the presidency of Montgomery County in April.

AMA Opinions

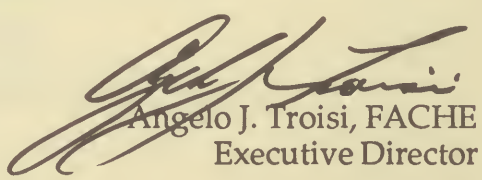
The 1989 edition of *Current Opinions* of the AMA's Council on Ethical and Judicial Affairs is free for all AMA members. In addition, the AMA has released, *Reports of the Council on Ethical and Judicial Affairs*. This book, which provides guidelines to help practicing physicians in their decision making, is available to AMA members for $60. Both books can be ordered by calling 1-800-621-8335.

Med Sig Bulletin Board

Med Chi's Med Sig computer bulletin board provides announcements and updates on issues in medicine from the AMA, Med Chi, and around the state. Questions or requests for clarification of announcements in this newsletter may be entered directly into Med Sig. This enables Med Chi staff to respond to your requests almost immediately. For more information regarding the Maryland Med Sig Bulletin Board System, contact Med Chi's Computer Department at 1-800-492-1056 or 539-0872 in Baltimore.

Committee Selections for 1990-1991

Members interested in serving on a Med Chi Committee are reminded that committee selection forms for 1990-1991 will appear in the November, December, and January issues of *MMJ*. Please complete and return one of these forms indicating your interest in serving on one or more committees.



Angelo J. Troisi, FACHE
Executive Director

* * * IMPORTANT * * *

MARYLAND LAW REGARDING NOTICE OF PARTICIPATION IN THE MEDICARE PROGRAM

On July 1, 1985 a law was passed in Maryland requiring physicians to post a notice in their offices regarding their participation status in the Medicare program. It has been brought to our attention that some physicians are not complying with this law. Therefore, Med-Chi has developed the signs on the next 3 pages for your use. The appropriate sign should be detached and posted in your office.

The law, which is outlined in Section 14-705 of the Health Occupations Article of the Annotated Code of Maryland, states:

> If a physician is engaged in the private practice of medicine in this State, the physician shall display a notice written in English that is plainly visible to patients in the office of the physician concerning whether the physician:
> (1) Is a participating physician under the Medicare program and, therefore, accepts assignment for all Medicare claims;
> (2) Accepts Medicare assignment on a case-by-case basis; or
> (3) Does not accept Medicare assignment in any case.
>
> This requirement DOES NOT apply to a physician or group of physicians who:
> (1) Have exclusive contracts with a health maintenance organization;
> (2) Treat only the patients of the health maintenance organization; and
> (3) Agree to accept full assignment for covered services rendered.
>
> **A PERSON WHO VIOLATES ANY PROVISION OF THIS LAW IS GUILTY OF A MISDEMEANOR AND ON CONVICTION IS SUBJECT TO A FINE NOT TO EXCEED $5,000 OR IMPRISONMENT NOT EXCEEDING 5 YEARS OR BOTH.**

If you have any questions about this matter, contact the Med-Chi Government Relations Department at 539-0872 or 1-800-492-1056.

For My Medicare Patients

I PARTICIPATE IN THE MEDICARE PROGRAM
AND
ACCEPT ASSIGNMENT FOR ALL MEDICARE CLAIMS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



_____

Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I ACCEPT MEDICARE ASSIGNMENT ON A CASE-BY-CASE BASIS

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.



Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

For My Patients

I DO NOT ACCEPT MEDICARE ASSIGNMENT IN ANY CASE

If you have any questions about my fees, please feel free to discuss them with me. As your physician, I am interested in your total health care.

Physician's Signature

This sign was prepared by the Medical and Chirurgical Faculty of Maryland (The Maryland Medical Society) in accordance with Section 14-705(b) of the Health Occupations Article of the Annotated Code of Maryland.

Maryland and International Health

Timothy D. Baker MD, MPH

Dr. Baker, a professor at The Johns Hopkins University School of Public Health and Hygiene, has 30 years experience in international health.

The year is 1793. Philadelphia has been visited by a disastrous epidemic of yellow fever. Baltimore citizens, aware of the contagious nature of yellow fever, take action to protect the city. A Board of Health is constituted - the first in the United States.[1] The first action of this Board is to hire four strong men to be posted on the Philadelphia Road to prevent possible carriers of yellow fever from coming to Baltimore. Thus, the first US City Health Department was created in an attempt to defend Maryland citizens from a yellow fever epidemic that originated in Latin America.

What has happened in the intervening 220 years makes up the substance of this special issue of the *Maryland Medical Journal.*

The articles address the role of physicians who lived in or were trained in Maryland in the control/eradication of four specific diseases: yellow fever, smallpox, malaria, and typhoid.

Although many US medical colleges have international health interests, Maryland is fortunate in having three schools that are leaders in the field of international health: Uniformed Services University of the Health Sciences, University of Maryland, and Johns Hopkins. Space in this issue did not permit complete descriptions of the extensive programs of these institutions. However, the interlinked areas of nutrition, population, and blindness are covered in three articles describing the research programs of Maryland institutions.

The hospitals and universities of Maryland have provided training for many international students who have returned to their home countries for positions of leadership in the health field. In addition to the foreign physicians who are trained here and who return home, there are many foreign medical graduates (FMGs) who are now serving the citizens of Maryland. An article discussing Maryland's debt to less developed countries for their FMGs begins on page 829.

An article by Dr. Alfred A. Buck, a Maryland-trained physician, describes one successful multinational research project and shows the difficulties and opportunities in international health work.

Baltimore is a port city with major international interests and sister cities in nine other countries. Dr. Hiroshi Nakazawa, Vice-Chairman of Med Chi Council and President of the Baltimore City Medical Society, is coordinator for the Kawasaki Sister City Program. Dr. John DeHoff, former president of Baltimore City Medical Society, is coordinator for the Cadiz Sisiter City Program. International trade, a significant part of Maryland's industry, brings many foreign seamen into Baltimore. Their health care is described by a port physician, John B. MacGibbon, who is also a foreign medical graduate from New Zealand. In addition, many Marylanders go overseas every year. These travelers are served by at least five travelers' clinics that are described by Drs. Sack, Herrington, and Baker.

An article on primary health care shows that what is learned in international health may be applied in areas such as Western Maryland.

As we worked on this special issue it became apparent that there were many more international health activities than could be covered in one *MMJ* issue. Readers who know of other important past

and present international health activities are invited to submit manuscripts for future issues of the journal.

We hope that Med Chi members will find a source of pride in the accomplishments of fellow Maryland physicians in international health.

The Broad Spectrum

International health: the words conjure up an image of Albert Schweitzer with his shock of snow white hair and rumpled linen suit standing by his bush hospital in Gabon, Africa.

International health is Albert Schweitzer and other missionary physicians, both religious and secular, but it is also much, much more and probably is best defined as any health activity between two or more nations. The activity may be:

1. *Multilateral* - The World Health Organization (WHO), UNICEF, and The World Bank, for example, with their many member nations joined together for joint direction and policy setting. Maryland physicians have served on the Governing Council, Executive Committee, and Expert Committees of WHO and for the World Bank and UNICEF.
2. *Bilateral* - Two nations make a unique agreement, such as the Agency for International Development's (AID) programs with a number of the less-developed countries of the world. Many Maryland physicians also have served with AID. USAID sponsored much of the work described on articles on population, blindness, and nutrition.
3. *Governmental* - Military units of the United States and many other nations have carried out international health programs. Today the Naval Medical Research Units in Cairo, Manila, and Jakarta provide excellent examples of cooperative health research projects, sponsored by the military, bringing health benefits to all people. Maryland physicians have played key roles in these projects. The article on Geographic Epidemiology (page 833) describes military sponsored international health research. The National Institutes of Health in Bethesda have a domestic focus but also have important international health programs such as the Fogarty Center.

Table 1 US Physicians in International Health

	Long-term Employees	Short-term Employees	Volunteers	Total
Clinical	340	66	253	659
Public health	172	187	56	417
Other & unspecified	125	56	160	341
Total	627	309	471	1,417

NOTE: Numbers from most recent survey (1981).[2] Slight increases may be expected from recent increased in US foreign aid for health.[3] See also NOTE Table 2.

4. *Quasigovernmental organizations* - The International Red Cross, for example, assumes responsibilities for activities such as health aspects of disaster relief and the health of refugees around the world in Thailand, Sudan, Angola, and Mozambique.
5. *Religious missions* probably still employ the largest number of US physicians in international health. Mission activities range from the modern tertiary hospitals of the Seventh Day Adventists in Hong Kong, Bangkok, and Taipei to the "bush" clinics of the Sudan Interior Mission. Many Maryland physicians have given their time to serve either short-term or long-term with religious mission health activities. Today there is still a need for physicians who have the missionary spirit to serve those countries in greatest need.
6. *Nonreligious, private, voluntary, organizations* (PVOs) CARE, Foster Parents Plan, Save the Children, Project HOPE, and many others offer opportunities for Maryland physicians to serve in international health.
7. In addition to these broad based, philanthropic public fund-raising agencies, there are *professional organizations* such as Health Volunteers Overseas, Orthopedics International, InterPlast, and Project Orbis that offer the opportunity for physicians, specialists in given fields, to volunteer their time to serve the medical needs of the poorest of the poor.
8. The great *endowed foundations* such as Rockefeller and Kellogg have had major programs in international health. The yellow fever article describes one Rockefeller Foundation activity. Other nations such as Japan and Italy are following the US lead.
9. *Universities* are playing an increasingly important role in international health through their research projects in the developing countries of the world and in the training of foreign students at the postgraduate, postdoctoral level.
10. With the recent major increase of funds for international health work, a large number of *consulting firms* have been set up to take advantage of funding opportunities. Located near the Washington Beltway these firms have been dubbed, somewhat pejoratively, "beltway bandits," however, some carry out excellent programs to benefit the health of people in developing nations. A few located in Maryland are thus part of the international health activities of our state.

Size of US International Health Effort

Although very recent figures are not available for the number of US health professionals engaged in international health activities, there are at least as many as shown in Tables 1 and 2.

Data are not available on the exact number of Maryland physicians involved in international health, but because of the major programs of the three educational institutions, Maryland probably contributes a greater share of U.S. health personnel overseas than indicated by the size of the state.

Only 0.3 percent of all US physicians are engaged in international health. The percentage in Maryland may be slightly higher than for the rest of the US. For comparisons with the number of foreign physicians coming to the United States, see the article on "Reverse Foreign Aid" on page 829.

The distribution of Maryland physicians among the various types of international health organizations may be estimated from Table 2.

Volunteer health professionals make up over 40 percent of the number in church-related organizations and 50 percent in private voluntary organizations. US "volunteer" physicians in less-developed countries often are not cost effective. If they do not speak the local language they will tie up health workers as translators. If they require special housing or medical equipment they often place a drain on scarce local resources. Peace Corps "volunteers" cost over $20,000 per year in support and back-up expenses,[5] more than the annual salary of the Minister of Health in many countries. Prospective volunteer Maryland physicians would be well advised to seek information from organizations such as Health Volunteers International (Dr. James Cobey, Washington Station POB 6515, Washington, DC 20035-5157; 202-290-0928) in seeking meaningful volunteer assignments.

Worlds Apart

Although the broad definition of international health includes the activities among industrialized nations, the focus of this issue is on Maryland scientists and institutions in the less-developed countries of the world. Readers should understand the great gulf that lies between the opulence of America and the less-developed countries of the world.

They are not a discrete block but rather a continuous spectrum from the poorest of the poor (such as Chad or Bangladesh with their intractable problems of poverty, ill health, and economic regression rather than development) to countries such as Chile, Taiwan, or Korea, which are entering the category of industrialized nations.

As Table 3 shows, the health of a nation as represented by infant mortality is very closely related to the economic level of the country. However, a few major exceptions show it is possible to achieve good health at low cost. Good health may be achieved by the interaction of a number of factors. Equitable distribution of financial resources makes the lot of the poorest fifth of the people less onerous and less life-threatening than it is in countries such as Brazil where the richest tenth of the population has far more than its share of the nation's wealth. The percent of the national income received by the poorest fifth of households in Sri Lanka is three times as great as the percent of the national income received by the poorest one-fifth in Brazil.

Female education is also highly correlated with better health (Table 4). In each economic level the higher percent female education is associated with better infant survival. It is not surprising that children of better educated mothers have a better chance to survive.

Table 2. US Health Professionals in International Health by Type of Organization [4]

	Number	Percent
Church related	2,199	33
Private voluntary	1,668	25
Universities	985	15
For profit	878	13
Government	867	13

NOTE: 2,000 additional US health professionals are estimated from a telephone random sample follow-up of international health organizations not responding to an initial survey. Although the follow-up sample was too small to estimate the number of physicians that should be added to the US totals, there would be less than 500.

Table 3. Relation of Economic Level To Health

	Per/cap[6] GNP	Favorable Exceptions	IMR*[7]	Av. IMR * for level	Unfavorable Exceptions	IMR*
High-Income Countries	$6,200			10	Saudi Arabia	85
	4,210	Trinidad	13			
Mid-income Countries	2,000			56	Brazil	63
	1,810	Malaysia	30			
Low income Countries	450			76	Indonesia	88
	400	Sri Lanka	30			

*Infant mortality rate

Table 4. Female Education and Infant Mortality

Economic Level	Secondary school age* females in school[6] percent	Infant Mortality Rate
High		
Saudi Arabia	1	85
Trinidad	78	13
Mid		
Brazil	16	63
Malaysia	22	30
Low		
Indonesia	7	88
Sri Lanka	64	30

*Data from year corresponding to average age of mothers.

Widely disseminated health services, particularly preventive services, seem to play a role in providing "good health at low cost" in certain of the less-developed countries such as China and Sri Lanka.[8]

The infant mortality levels in the poorest of the poor nations are far worse than they were a century ago in the United States. Frequently the statement is heard, "we have poverty and ill health in the United States, why should we be concerned about other nations?" The answer lies in the fact that "poverty and ill health" in the US would be "affluence and moderate health" in many of the poorest nations.

Maryland's physicians involved in international work in developing countries feel a moral commitment to help the truly destitute of the world.

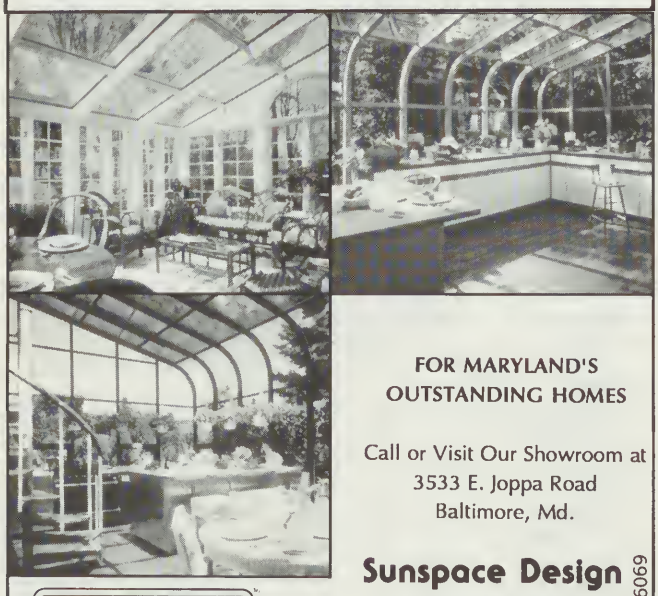
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Yellow Fever and Maryland Physicians

Timothy D. Baker MD, MPH

Dr. Baker is Professor, Department of International Health, Johns Hopkins University.

Tenacity, human-relations and scientific skills,and ability to recognize important scientific advances and implement them are human elements essential to the success of disease control programs whether in Brazil in the 1930s or in Maryland in the 1990s.

It was yellow fever that led to the founding of Maryland's first Board of Health. The article on Health Care of Merchant Seamen (on page 839) also describes yellow fever epidemics in Maryland. Physicians who worked or trained in Maryland deserve much of the credit for the control of yellow fever in the Americas. Early work done by Drs. Walter Reed, James Carrol, and Henry Carter laid the groundwork, but it was Dr. Fred Soper who effectively controlled yellow fever.

Dr. Fred Lowe Soper, the nemesis of yellow fever in the Americas, had his first training in international health work in Maryland in a special course for Rockefeller Foundation International Health Staff Members at the Johns Hopkins School of Public Health. While at Hopkins in 1919-1920, Soper met General William Gorgas, the Head of the Rockefeller Foundation's Yellow Fever Commission and Dr. Geraldo Paula Souza, who later founded The World Health Organization. After a two year field assignment in Brazil, Soper returned to Maryland and Johns Hopkins to earn his masters degree in Public Health. After a field assignment was in Paraguay,[1] his next contact with a Maryland institution was his receipt of the doctor of Public Health degree from Hopkins in 1925.[2]

Aedes Aegypti Eradication

Following the discovery that the *Aedes aegypti* mosquito was the vector of urban yellow fever by Finley in 1881 and confirmation by Walter Reed , who studied at Hopkins with William Welch MD, James Carrol, a University of Maryland graduate, and Dr. Lazear in 1900, antimosquito control was undertaken in urban areas initially by fumigation to kill adult mosquitoes, subsequently by antilarval measures. The detailed epidemiology was worked out by a University of Maryland Medical School graduate in the USPHS, Dr. Henry Carter, whose definitive work was published by the Johns Hopkins epidemiologist, Dr. Wade Hampton Frost. [3]

In the 1920s, the Rockefeller Foundation initiated a program to eradicate yellow fever in the Americas, starting in Brazil where the

first epidemic of yellow fever in the hemisphere was described.[4] The original strategy was to control the disease in major population centers, thereby eradicating the disease (although not the mosquito vector) in entire countries. However, in the late 1920s isolated rural outbreaks occurred, and yellow fever returned to Rio de Janeiro and other major population centers in Latin America.

Soper, by a careful survey of past work of the Rockefeller Foundation/Yellow Fever Service in Recife, Brazil, found inspectors had been falsified records. In collaboration with Brazilian colleagues he instituted a new system of supervision so *A. aegypti* surveillance would be "as certifiable as monthly bank balances." The successes of the intensified *Aedes* control program led Soper and his Brazilian colleagues to consider the bold goal of the *Aedes* mosquito vector eradication. In 1934 he proposed a program of nationwide Aedes eradication for Brazil.

The discovery of the monkey reservoir of jungle yellow fever gave impetus to the importance of an *A. aegypti* eradication program as the best defense against re-introduction of yellow fever to major urban centers in Latin America and port cities of the United States. The importance to Latin America of yellow fever and the eradication of *Aedes* was emphasized when Brazilian President Getulio Vargas urged *A. aegypti* eradication in his first annual report to the nation.

The successes of the Brazilian yellow fever organization in eradication of the *Aedes* from Brazil led quite naturally to the need for eradication in neighboring countries of Latin America. Soper was able to persuade the Pan American Health Organization to take up hemispheric *A.aegypti* eradication as a major program. By the 1950s the Pan American Health Organization had certified some 20 countries of Latin America as having eradicated *A.aegypti*. Unfortunately, the United States never attempted *A. aegypti* eradication. The mosquito was re-introduced into Latin America and the Caribbean in the 1950s, probably as larvae in the water in old tires shipped from the United States to Latin America and the Caribbean.

Although Soper's goal of hemispheric eradication of *A.aegypti* was not achieved, his well-planned and carefully supervised program freed the Americas from the menace of urban yellow fever epidemics. However, the recent dengue fever epidemics in the Caribbean serve as testimony to the consequences of *Aedes* re-introduction to urban centers in the American tropics. What Soper proved feasible in Latin American countries was not done in the US because of lack of political will.

Eradication of Anopheles Gambiae

Soper's second eradication effort was completely successful. In 1930, *Anopheles gambiae*, the most efficient and malignant vector of malaria, was introduced to Northeast Brazil from Africa. (Malaria is also discussed in an article by David Clyde on page 809.) A Rockefeller Foundation entomologist discovered *A. gambiae* in northeast Brazil and reported this information to Dr. Soper. Aware of the dreadful consequences of gambiae-borne epidemics of falciparum malaria, Soper attempted to persuade Brazilians to stamp out the invader before a solid beachhead was established. The Governor of the state where gambiae invaded was disinterested in paying for spraying programs; the Rockefeller Foundation was unwilling to commit major resources; the Brazilian government was insecure and hesitated to interfere in a state problem. [5]

The failure to heed Soper's warning led to a devastating epidemic of gambiae-borne malaria in the neighboring state of Ceara. In a survey report we find

> entire counties...are attacked...more than 90% of the population ill...towns, villages, large and small properties...extensive cotton and cereal plantations, cattle, etc. all lacking attention due to the shortage of labor...local authorities estimate total cases at about 60,000...11 deaths per day. [5,6]

The Cooperative Yellow Fever Service (CYFS) was given the assignment of containing the epidemic. The Rockefeller Foundation and the Government of Brazil allocated major resources. Under Soper's guidance, a Presidential decree was drafted, creating a malaria service of the Northeast that worked for the next three years to accomplish the eradication of *A. gambiae*. Securing the support of the Government of Brazil and the Rockefeller Foundation, a formidable task, would not have been possible without Soper's determination based on his realization that the burden of gambiae-borne epidemics of malaria would move Brazil's economy back to the 1700s.

Lessons Learned

Soper's career provides insight to essential human elements of disease control programs whether in Brazil in the 1930s or Maryland in the 1990s. Much of what Soper learned was passed on to another Maryland trained physician, Dr. D. A. Henderson, the eradicator of smallpox.

Tenacity was the most important element in Soper's persistence against the opposition of politicians, short-sighted Rockefeller Foundation executives, and most of all, the intransigent enemies: *A. gambiae* and *A.aegypti*. A less-determined individual would have been dissuaded from embarking in a campaign that fellow scientists and politicians alike said would be impossible.

Tenacity alone was not enough. Soper had excellent human relations skills. He was tough and demanding, but inspired loyalty in his subordinates and colleagues. (One of Soper's subordinates, fired with enthusiasm, threatened people with a revolver if they rejected hookworm treatment.) His ability to inspire loyalty was based on his complete honesty and integrity.

Soper had excellent scientific training to prepare him for his future successes. He had a short course at

Johns Hopkins School of Public Health before his first assignment. He then returned to take the certificate (master's) degree program, and then carried out research work leading to the Doctorate in Public Health.

A final attribute leading to Soper's success was his ability to recognize important scientific advances and implement them. He quickly apprehended the epidemiologic consequences of the cycle of jungle yellow fever that was discovered in Brazil and Colombia in the 1930s. He was able to build this factor into his program for the eradication of urban yellow fever in Latin America. The use of the viscerotomy needle[7] for diagnosis of yellow fever postmortem was a "low-tech" development, but one which Soper seized upon and made an important element in his yellow fever surveillance program. Soper also was quick to recognize the advantages of Paris Green as a larvacide and DDT as a vector insecticide.[8]

These three examples of Soper's ability to seize on important new elements and incorporate them to ensure the success of his program are strikingly similar to Dr. D. A. Henderson's skill in applying appropriate, high and low technology and scientific discoveries in the smallpox eradication campaign (see page 805). Dr. Henderson was a great admirer of Dr. Soper; it is not surprising that there are many similar attributes in these two "great eradicators."

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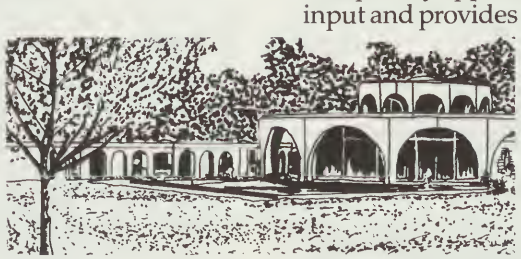


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D.A. Henderson: Bringing the Lessons of Smallpox Home

Winthrop Morgan MPH

The author is Program Officer, Population Communication Services, Center for Communication Programs at The Johns Hopkins University, Baltimore.

In October 1977, Dr. D. A. Henderson provided irrefutable proof that we have the power to conquer infectious diseases through cooperation, coordination, and common sense. Smallpox was dead. Since then Henderson has been applying the lessons of the successful smallpox campaign to improving the efficiency and effectiveness of the public health field.

Just about 12 years ago, after "10 years-9 months-and 26 days" (as Dr. Henderson rattles it off) of dedicated effort, he and his young team of epidemiologists, administrators, and technicians orchestrated the only successful eradication of a disease in the history of the world. Smallpox was dead. Subsequently Dr. Henderson has devoted his life to improving the efficiency and effectiveness of the public health field by leading the attack on vaccine-preventable childhood diseases, such as poliomyelitis, and has participated in extraordianry advances in combating diarrheal diseases, vitamin deficiencies, and respiratory illnesses. Here at home, Dr. Henderson is gathering forces to face more tough problems: teenage pregnancy, drug abuse, and the spread of AIDS.

Donald Ainslie Henderson was raised in the small suburban town of Lakewood, Ohio, earned his AB at Oberlin College (1950) and received his MD from University of Rochester School of Medicine (1954), where his interests ran more toward internal medicine than the "lowly profession of public health." Completing his internship and residency in internal medicine at the Mary Imogene Bassett Hospital in Cooperstown, NY in 1955 he joined the Epidemic Intelligence Service (EIS) of the US Centers for Disease Control as its chief, where he served his obligatory two years in the uniformed services.

Of his first exposure to the field of epidemic intelligence, Henderson recalls, "Suddenly, I was immersed in infectious disease epidemiology and public health. Every day was an adventure. It was simply too exciting a field to ever think of returning to clinical medicine." In 1959 Dr. Henderson came to Johns Hopkins School of Hygiene and Public Health to study under the world-renowned epidemiologist and chronic disease specialist (and native Marylander) Abraham Lilienfeld. Lilienfeld instilled in Henderson the value of having your data guide your disease control program; this lesson became a key in Henderson's smallpox attack strategy that would led to success where so many other campaigns had failed. Henderson earned his Master in Public Health (1960)

under Lilienfeld's guidance and formed a friendship with his mentor that led him back to Hopkins as dean almost 20 years later.

Returning to work with the CDC following his graduate study, Henderson became deeply involved in surveillance and containment of infectious disease outbreaks in the United States as chief of the surveillance section of the EIS, working with Dr. Alexander D. Langmuir on eradicating poliomyelitis and combating Asian influenza, infectious and serum hepatitis, and measles. Here he became practiced in the techniques of disease reporting and surveillance and containment procedures for epidemic control that would prove the cornerstone of the successful smallpox eradication effort worldwide.

In his work at the US Center, Henderson first became involved in international health through the smallpox eradication program. While this disease had been effectively eradicated from the United States some time before, Henderson and his colleagues periodically were asked to consult with US Agency for International Development and other foreign assistance personnel in the government to develop effective plans for mass immunization efforts in developing countries. In 1965, the United States became involved in a growing interest of the World Health Assembly to eradicate smallpox. The government committed technical and financial support to this ambitious undertaking by coordinating a regional vaccination effort in Western and Central Africa that would include smallpox vaccinations. Henderson, as Chief of Surveillance, was asked for his appraisal of the project plans. When he expressed well-informed skepticism in a memorandum to his superiors, they tapped him as principal redesigner and strategist for the program.

The more Henderson brought to light the logistical, strategic, and sociopolitical difficulties involved in such a campaign, the more responsibility he was given to develop an effective plan for overcoming the obstacles with regard to smallpox. By January 1, 1967, Henderson found himself in Geneva at the World Health Organization as the head of a talented but meager core staff of 10 and fewer than 100 ancillary staff worldwide; his mission impossible was to wipe out smallpox from the face of the earth within 10 years.

In his first year as director of the Smallpox eradication program, as many as 10 to 15 million cases of smallpox were occurring worldwide, causing two million deaths and countless numbers "walking wounded" suffering permanent disfigurement and blindness. Nomadic tribes resisted attempts to report the disease among them as they carried it from place to place, and in some areas, primitive variolaters attempting a crude form of vaccination by rubbing infected scabs into the skin of healthy persons were spreading more of the disease more than they were preventing. Against this, Henderson was armed with under 10 million dollars a year and a staff of fewer than 100 worldwide to battle a disease killing more people on more fronts than did any war in history.

Yet just over 10 years later, on October 26, 1977, the last case of naturally occurring smallpox was treated and the virus contained and destroyed in Somalia, East Africa. Almost 200 years after Edward Jenner developed an effective vaccine against it, the scourge of over 3000 years was banished from the world. Henderson and his team had done the impossible.

Henderson did more than simply remove a nemesis from the world of public health. He also provided an approach to attacking health problems that hitherto had not been applied. "It seems like common sense that you would keep a good record of what problems you have, and let you data drive your program," says Henderson.

> But until the smallpox program came along, nobody had done this. One of the most important things we did was establish a reporting system that told us where we should be using our resources. We needed that, because we never had enough resources to waste....Another thing we did was look for young, bright people who hadn't been around long enough to be told something was impossible. We also learned to get out in the community. We saw people trying to run vaccination campaigns out of hospitals and clinics. You would get maybe at best 50 percent coverage. When we went into the community with a couple of people, we could get 80 or 90 percent coverage. Community based problems need community based solutions. It's a lesson we still need to learn at home.

Around 1977 Henderson was ready to bring home the lessons he had learned in a decade of being at the forefront of public health fieldwork around the world. While he was considering his next challenge, his former professor and good friend Abraham Lilienfeld convinced him to take over the deanship of Hopkins School of Hygiene and Public Health. The decision to return to Baltimore was not difficult for Henderson:

> I came here because the Baltimore-Washington area is the most exciting place for a health professional to be. Baltimore is the health center of the world. We have the Hopkins Medical Institutions, University of Maryland, National Institute of Health, Walter Reed, Food and Drug Administration, Health and Human Services, and so many more exciting opportunities for collaboration at the national, state, and city levels. Right here is where we can try new approaches to solving our health care problems.

Dean Henderson brought with him a desire to expand, improve, and upgrade everything around him; school, city, state, and nation. The man who had lived out of a suitcase in the far reaches of the world settled in Maryland and went to work to apply the lessons he had learned to our needs.

He began with the School itself. From the time Henderson became Dean, the resources of the School have grown from under $17 million dollars to over $100 million per year. Over 300 full-time faculty now teach at the East Baltimore campus, and many have worked in over 50 countries throughout the world. Hopkins researchers have shared responsibility for the development of oral rehydration salts, which have contributed to the decrease of deaths due to diarrheal diseases by as much as 50 percent in countries such as

Egypt. They have demonstrated a link between vitamin A deficiency and immunosuppression in children and have developed programs for Vitamin A supplementation that offer life-saving potential. They have pioneered work in community based distribution networks, following the lessons of the smallpox campaign.

A resident of Baltimore for over ten years, Dr. Henderson is especially concerned with increasing the School's involvement (and his personal involvement) with local and regional agencies, industry, and labor concerned with our health problems. Not a stranger to overwhelming problems, he is quick to note that teenage pregnancy, drug abuse, and the AIDS epidemic are better attacked through community based work rather than from the hospitals, jails, and agency hallways that are the front for the current attack. In developing countries, says Henderson, "We learned quickly that you couldn't run a vaccination program out of a health center or hospital. Here at home, we haven't learned that lesson: we try to combat teenage pregnancy from a hospital or doctor's office then wonder why we fail."

Henderson's strong advocacy of community based approaches is complemented by an astute understanding of the need for political support for the fight. He recalls an example from the smallpox campaign that provides a lesson for us:

> When we came into India to work with smallpox, they had been working for almost 15 years without much success. Then Indira Ghandi got interested in the problem, partly because we made sure she knew that [rival] Pakistan's program was doing so well. Within two or three years, smallpox had been eradicated from India.
> But today, I hear that our Surgeon General left office without having the opportunity to discuss even the AIDS epidemic with our President. These issues deserve more attention; without the support from the top, we cannot beat them in our communities.

Henderson takes this committment to community action to his deanship at Hopkins. He believes it is the responsibility of the School of Public Health to collaborate on projects within the area.

> I have met with the Governor and with Mayor Schmoke several times to discuss how we can work together for Maryland's health. With the unique resources we offer comes a responsibility. We need to see ourselves as a professional school: students should be practicing before they leave here. Our tradition of doing this has been expanding over the years that I've been here.

Examples of recent work in the Baltimore area include some of the first scientific community based research on intravenous drug abuse and AIDS, drug-free hypertension control therapy in high schools, and evaluation and consultations with a Baltimore "rap" group bringing AIDs prevention messages to teens around the state.

Henderson believes there is room for much more cooperation between state and local agencies and the School. "But," says the dean, "part of the problem is that the state and local agencies are bureaucracies; and we're no better. Many of their administrators and our teachers think the same way. It's hard to get them to think of spending part of time in the classroom and part of the time out in an agency." Henderson explains he would like to see all Maryland health professionals consolidate their efforts on public health problems. He thinks combining academic and professional expertise in the field and in the classroom will help generate creative solutions to Maryland's problems.

Dr. Henderson has great expectations for the future of Hopkins, Maryland, and the tackling of problems great and small; in fact, he believes this is the most exciting time to be in the growing field of public health.

> When I entered the field, nobody was interested in public health; it didn't offer career prestige, money, or the ability to make real changes. Now, this is the most exciting time to be in public health. In part due to our success with smallpox, many of the best physicians, scientists, economists, sociologists, and administrators are attracted to the field. I see the best come through our School.

Armed with the "moral suasion" techniques he learned in the smallpox campaign, Dean Henderson continues to seek a melding of the strengths of Hopkins and the Maryland health care community to tackle some of the more serious problems at home, applying lessons learned in Haiti, Honduras, and the Horn of Africa to Highlandtown, Homewood, and the community that the Hendersons now call home. ■

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Malaria in Maryland since 1960: Incidence and Research

David F. Clyde MD, PhD

Dr. Clyde is an adjunct professor, The Johns Hopkins School of Hygiene and Public Health, and research professor of medicine, University of Maryland, Baltimore.

Immediately prior to US involvement in Vietnam, less than 3 cases of malaria were reported from Maryland each year, in contrast to current identification of 10 times that number.

In recent years, the number of cases of malaria annually reported to the Atlanta Centers for Disease Control from Maryland has been around 30, or 3 percent of the cases nation wide (Table).[1]

These figures do not include infections induced in volunteers for research purposes nor those reported from the District of Columbia. Local transmission, other than very rarely through contaminated blood transfusion, is not thought to have occurred in Maryland for several decades, although in the warmer months the common North American vector mosquito, *Anopheles quadrimaculatus,* is widely distributed in the state, particularly at lower altitudes around the Chesapeake Bay.

The increase in cases seen in Maryland and in the United States is attributable to a greater volume of immigrants from countries where the disease is endemic, and to a marked increase in Americans visiting those countries and returning with the infection. One third of the cases seen in the United States develops in Americans returning from visits or tours abroad. The foreign sources have been Asia in 40 percent of cases (the majority from India), Africa in 30 percent, and Middle and South America in 30 percent (the majority from Mexico). During the period 1983 to 1986 the greatest number of returning Americans developing falciparum malaria (the most dangerous type of the disease) had contracted their infections in sub-Sahara Africa, and of 28 individuals dying mainly from cerebral complications, 21 had returned shortly before from that continent. The incidence in the United States, however, is small compared to the estimated 500 million cases worldwide among a population at risk in transmission areas of 2,700 million, half of whom are children. In this country, active transmission virtually disappeared soon after the end of World War II, although the vectors persist.

During the 1950s and 1960s, vigorous campaigns to eradicate malaria were mounted in most affected countries except those of equatorial Africa. The operations, coordinated by the World Health Organization, were based on the spraying of DDT in houses to destroy resting mosquitos, and on the general distribu-

Table. Cases of Malaria Reported to CDC from Maryland and from the United States, 1960 - 1989

5-Year Periods	Annual Mean No. of Cases In Maryland	Annual Mean No. of Cases In USA	No. of Maryland Cases as % of USA Cases
1985-1989*	30.4	1,014.0	3.0
1980-1984	32.8	1,265.2	2.6
1975-1979	20.4	603.2	3.4
1970-1974	30.8	1,339.6	2.3
1965-1969	35.4	2,630.6	2.2
1960-1964	2.5	89.0	2.8

*For the whole year 1989, the incidences have been prorated from data reported January 1 to May 26. Annually at the height of American involvement in Vietnam (1967-1971) the numbers were 52.6 for Maryland and 2,573.4 for USA, the Maryland percent of total US cases being 2.04.

tion of chloroquine to reduce the parasite reservoir in the human population (Photo). Success was achieved in many places, and the prevalence of malaria greatly reduced, but only rarely could the gains be consolidated and maintained.

By the end of the 1960s it was apparent the massive and costly campaigns could not be afforded indefinitely, and technical problems, principally an increasing insusceptibility of mosquitos to DDT and other insecticides and of *Plasmodium falciparum* to chloroquine, made it necessary to revert to the traditional antimalaria methods centered on control of mosquito breeding and treatment of patients until research could provide new weapons. Such research, commenced at the University of Maryland School of Medicine earlier that decade, encompassed studies on chemotherapy of falciparum and vivax malaria, on the insusceptibility of many Americans of African descent to vivax malaria, and on the identification of vaccines against the disease.

Antimalaria Drug Studies

The spread of falciparum malaria resistant to chloroquine catalyzed a program of antimalarial drug development initiated by the US Army in World War II and revitalized in response to treatment problems encountered during the hostilities in Korea and Vietnam.[2] Based at the Walter Reed Army Institute of Research (WRAIR) and funded by the Army Medical Research and Development Command directly and through contracts to collaborating institutions, the Army Malaria Drug Develoment Program served to identify potential drugs and have them evaluated for tolerance and efficacy in animal and human testing systems. Prominent among the available systems was the volunteer facility maintained by the Department of Medicine (Chairman: Theodore E. Woodward MD) of the University of Maryland School of Medicine at the Maryland House of Correction, Jessup. The infectious diseases research program at that facility was administered by Richard B. Hornick and included among the professional staff Myron M. Levine, at present directing the Center for Vaccine Development of the University, the successor to the Jessup program, which closed in 1975. Studies designed to evaluate new chemotherapeutic and immunologic methods in a number of major communicable diseases (including malaria) were undertaken within strict institutional guidelines governing safety of the procedures and material employed and required informed consent of the volunteers.

Malaria studies at Jessup and on the medical school campus were designed mainly to ascertain safety and

PREVENTION OF MALARIA[1]

Drug of Choice	Adult Dosage*	Pediatric Dosage*
Chloroquine phosphate[2] *(Aralen)*	300 mg base (500 mg salt) orally, once/week beginning 1 wk before and continuing 6 wks after last exposure	5 mg/kg base (8.3 mg/kg salt) once/week, up to maximum adult dose of 300 mg base
Chloroquine-Resistant Areas		
Chloroquine[2]	as above	
plus Pyrimethamine-sulfadoxine *(Fansidar)*[3]	Carry a single dose (3 tablets) for self-treatment of febrile illness when medical care is not immediately available	<1 yr: 1/4 tablet 1-3 yrs: 1/2 tablet 4-8 yrs: 1 tablet 9-14 yrs: 2 tablets
plus Proguanil[4] (in Africa south of the Sahara)	200 mg daily during exposure and 4 weeks afterwards	<2 yrs: 50 mg daily 2-6 yrs: 100 mg daily 7-10 yrs: 150 mg daily 10 yrs: 200 mg daily
OR Chloroquine[2]	as above	
plus Doxycycline[5]	100 mg daily during exposure and 4 weeks afterwards	>8 years of age: 2 mg/kg of body weight orally/day, up to adult dose of 100 mg/day

* d indicates day. Dosage is oral unless otherwise stated.

1. At present, no drug regimen guarantees protection egainst meleria. If fever develops within a yeer (particularly within the first two months) after travel to malerious ereas, travelers should be advised to seek medicel attention. Countries with e risk of malaria were listed in The Medical Letter, volume 29, page 53, 1987, but the number of sreas reporting chloroquine resistence continues to increese. Travelers to any of these countries should be advised to avoid mosquito bites by using insect repellents conteining diethyltoluamide ("deet" – Medical Letter, 27:62, 1985) end using mosquito netting when sleeping in exposed ereas.
2. For prevention of atteck efter departure from ereas where *P. vivex* and *P. ovale* are endemic, which includes almost all areas where malaria is found (except Haiti), some experts prescribe primequine phosphete (t5 mg base (26.3 mg)/d or, for children, 0.3 mg base/kg/d, x t4d). Others prefer to avoid the toxicity of primaquine and rely on surveillance to detect cases when they occur, particularly when exposure was limited or doubtful. Primaquine can cause hemolytic anemia, especially in petients whose red cells are deficient in glucose-6-phosphate dehydrogenase. This deficiency is most common in Blecks, Orientals, end Mediterraneen peoples. Patients should be screened for G-6-PD deficiency before treatment. Primaquine should not be used during pregnancy.
3. Recommended for trevel to Africe south of the Sahere, the Indian subcontinent, South America (except the Amazon basin), Oceanie, Hainen Islend and the southern provinces of China. Use of *Fensider*, which conteins 25 mg pyrimethamine and 500 mg sulfadoxine per tablet, is contraindicated in patients with a history of sulfonamide or pyrimethamine intolerance, in pregnancy at term, and in infants less then two months old.
4. Proguanil (*Paludrine* – Ayerst, Canada; ICI) is not evaileble in the USA.
5. In Southeast Asie end the Amazon besin. The FDA considers use of tetrecyclines as antimalarials to be investigational. Use of doxycycline is contraindicated in pregnancy and in children less than eight years old. Physicians who prescribe doxycycline as melarie chemoprophylaxis should advise patients to limit direct exposure to the sun to minimize the possibility of a photosensitivity reection. Young children or other travelers who cannot teke doxycycline should carry *Fansidar*.

These two charts are reprinted with permission from **The Medical Letter on Drugs and Therapeutics,** February 12, 1988, pp. 23-24.

efficacy of candidate chemotherapeutic agents supplied by WRAIR. Ancillary to this were investigations into the biologic, immunologic, and drug response characteristics of strains of *P. falciparum* and *P. vivax* emanating from Vietnam, Malaysia, Thailand, Burma, the Solomon Islands, New Guinea, the Philippines, Tanzania, Panama, and El Salvador, and of the potential for malaria transmission of several species of domestic and foreign Ampheles mosquitos maintained by entomologist Vincent C. McCarthy in colonies at the medical school. A number of collaborators across the country were sent blood and other samples for independent study.

The chemotherapeutic work was undertaken between 1965 and 1975. Prominent among the compounds tested for tolerance and safety in stepped doses, and for efficacy against mosquito or blood-induced infections,were two series, quinoline methanols and phenanthrene methanols, that proved to be both safe and efficacious against chloroquine-resistant falciparum malaria[3] The ultimate products of each of these series, mefloquine and halofantrine, are of major therapeutic importance today. Other drugs that were examined and continue to be valuable included tetracyclines, clindamycin, and combinations of sulfones, sulfonamides, and folic acid antagonists.[4] The continuing utility of established drugs such as the 4-aminoquinolines, quinine, and primaquine was repeatedly checked against newly isolated strains of the human plasmodia.[5]



Photo. Malaria residual spraying in India (TCM).

TREATMENT OF MALARIA

Drug			Adult Dosage	Pediatric Dosage
All *Plasmodium* except Chloroquine-Resistant *P. falciparum*				
ORAL				
Drug of choice:		Chloroquine phosphate[1,2]	600 mg base (1 gram), then 300 mg base (500 mg) 6 hrs later, then 300 mg base (500 mg)/d x 2d	10 mg base/kg (max. 600 mg base), then 5 mg base/kg 6 hrs later, then 5 mg base/kg/d x 2d
PARENTERAL				
Drug of choice:		Quinine dihydrochloride[3]	600 mg in 300 ml normal saline IV over 2 to 4 hrs; repeat q8h until oral therapy can be started (max. 1800 mg/d)	25 mg/kg/d; give 1/3 of daily dose over 2 to 4 hrs; repeat q8h until oral therapy can be started (max. 1800 mg/d)
	OR	Quinidine gluconate[4,5]		
Alternative:		Chloroquine HCl[2]	200 mg base (250 mg) IM q6h if oral therapy cannot be started	Not recommended
Chloroquine-Resistant *P. falciparum*				
ORAL				
Drugs of choice:		Quinine sulfate[6,7]	650 mg tid x 3d	25 mg/kg/d in 3 doses x 3d
		plus pyrimethamine	25 mg bid x 3d	<10 kg: 6.25 mg/d x 3d 10-20 kg: 12.5 mg/d x 3d 20-40 kg: 25 mg/d x 3d
		plus sulfadiazine	500 mg qid x 5d	100-200 mg/kg/d in 4 doses x 5d (max. 2 grams/d)
Alternatives:		Quinine sulfate[7,8]	650 mg tid x 3d	25 mg/kg/d in 3 doses x 3d
		plus tetracycline	250 mg qid x 7d	5 mg/kg qid x 7d
PARENTERAL				
Drug of choice:		Quinine dihydrochloride[3]	same as above	same as above
	OR	Quinidine gluconate[4,5]		
Prevention of Relapses: *P. vivax* and *P. ovale* only				
Drug of choice:		Primaquine phosphate[9]	15 mg base (26.3 mg)/d x 14d or 45 mg base (79mg)/wk x 8 wks	0.3 mg base/kg/d x 14d

1. If chloroquine phosphate is not available, hydroxychloroquine sulfate is as effective; 400 mg of hydroxychloroquine sulfate is equivalent to 500 mg of chloroquine phosphate.
2. In *P. falciparum* malaria, if the patient has not shown a response to conventional doses of chloroquine in 48-72 hours, paresitic resistance to this drug should be considered. Intramuscular injection of chloroquine is painful and can cause abscesses.
3. Available in the USA only from the Centers for Disease Control, telephone 404-488-4046 (nights, weekends, or holidays call 404-639-2888). *P. falciparum* infections from Southeast Asia may require a loading dose of 20 mg/kg (NJ White et al, Am J Trop Med Hyg, 32:1, 1983).
4. Considered an investigational drug for this condition by the U.S. Food and Drug Administretion.
5. Optimal dosage for treatment of malaria is currently under investigation. For up-to-date information, telephone the Centers for Disease Control (daytime 404-488-4046; nights, weekends, holidays 404-639-2888). EKG monitoring is necessary to detect arryhthmias. Some experts consider quinidine more effective than quinine.
6. Quinine alone will usually control an attack of resistant *P. falciparum* but, in a substantiel number of infections, particularly with strains from Southeast Asia, it fails to prevent recurrence; addition of pyrimethamine and sulfadiazine lowers the rate of recurrence.
7. For treatment of *P. falciparum* infections acquired in Thailand, quinine should be given for seven days instead of three, combined with seven days of tetracycline.
8. Quinine plus tetracycline may be the regimen of choice in areas such es Thailand where resistance to pyrimethamine plus sulfonamides is common.
9. Primaquine phosphate cen cause hemolytic anemie, especially in patients whose red cells are deficient in glucose-6-phosphate dehydrogenase. This deficiency is most common in Blacks, Orientals, and Mediterranean peoples. Patients should be screened for G-6-PD deficiency before treatment. Primaquine should not be used during pregnency.

Genetic Insusceptibility

It had long been realized that many Africans and Americans of African descent were specifically insusceptible to vivax malaria. Investigations undertaken at NIH and elsewhere suggested the cause was related to the absence of the genetically determined Duffy blood-group antigens that served as red cell receptors for the merozoites of *P. vivax*. Clinical confirmation of the association between Duffy-negative phenotype and lack of susceptibility to mosquito-borne and blood stage induction of *P. vivax* infections was obtained in 1975 by studies in volunteers at Jessup.[6]

Malaria Immunization Studies

In 1971 the Maryland program was expanded to include a trial of immunization against human malaria. Studies at New York University had shown that mice could be protected against rodent malaria by immunization with X-irradiated sporozoites inoculated by syringe or mosquito bite.[7] Following demonstration in volunteers at Jessup and the medical school that inoculation of large numbers of sporozoites of *P.*

falciparum and *P. vivax* by irradiated mosquitos was both safe and immunogenic, an attempt was made to immunize three volunteers against *P. falciparum* sporozoites. When their antisporozoite immunity was challenged by infective nonirradiated sporozoites, one of the men did not develop malaria.[8] He continued to be immunized and challenged over a period of several months with sporozoites of *P. falciparum* strains collected in countries around the world, and remained protected. When challenged by inoculaton of blood stages of that species, or sporozoites of *P. vivax*, he developed malaria. Before the study ended in 1975, a scientist at the medical school had been successfully immunized in the same manner against both *P. falciparum* and *P. vivax* sporozoites of a worldwide variety of strains,[9] and another volunteer at Jessup against the latter species alone.[10] This work demonstrated for the first time that people could be immunized against sporozoites of the two main species of malaria parasite and that the immunity was species specific, did not extend to the blood stages of infection, and lasted up to six months.

Although it was impractical to vaccinate people residing or visiting tropical countries by having them bitten by many hundreds of infected irradiated mosquitos, the success of the Maryland study, confirmed by similar work undertaken by the Naval Medical Research Institute,Bethesda, collaborating with the Rush-Presbyterian-St Luke's Medical Center, Chicago, [11] gave impetus to the development of candidate vaccines when the requisite technology became available.

During the early 1980s at NYU, at WRAIR, and at other institutions, the biochemical and genetic characteristics of the sporozoites were revealed, permitting construction of synthetic peptide and recombinant sporozoite immunogens. Some of these are being tested in volunteers at the Center for Vaccine Development of the University of Maryland, in a program supported by the Agency for International Development through the NIH. The objective is to identify vaccines that may be used to reduce the devastating impact of malaria on inhabitants of tropical countries and to protect visitors to those countries and following their return home to Maryland or other states.

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Typhus, Typhoid, and T.E.W.

William E. Woodward MD

Dr. Woodward, son of Dr. T. E. Woodward, is Corporate Medical Director, McCormick & Company, Inc., Hunt Valley.

Theodore E. Woodward's initial discovery of the cure of typhoid may have been serendipitous. If a Malayan candle had burned more brightly, perhaps the treatment of the first case of typhoid would not have occurred. But in retrospect, the author now believes the process of cerebral illumination that had taken place made the discovery inevitable.

In his aptly but inelegantly titled book, *Rats, Lice and History,* Hans Zinsser speaks of typhus fever as a disease that has affected the history of the world more than have all of its generals and politicians.[1]

Never has this been more true than during times of war, when typhus and other camp followers have decimated soldiers and civilians alike. As recently as the Vietnam conflict, many US troops, allies, and enemy fell victim to a variant, scrub typhus, caused by *Rickettsia tsutsugamushi.* Although morbidity was considerable, mortality on the US side was virtually nil. This had not been true during World War II, when scrub typhus swept through American ranks in the South Pacific and claimed 20 percent of those it attacked.

Field Study: Typhus

As a result of the latter experience, in 1948 a small medical team was placed in Kuala Lumpur, Malaya (now Malaysia). The five physicians had been tested by typhus during the Second World War; all knew its consequences. Some had been members of the US Army Typhus Commission during World War II, and at least one had contracted typhus while studying it in Morocco in 1942. Dr. Joseph E. Smadel had assembled four other physicians (each with a particular specialty), Drs. Herbert L. Ley Jr., Cornelius B. Philip, Robert Traub, and Theodore E. Woodward (T.E.W.), chosen for his clinical skills.

Clinical skills were important since the team was formed to test the efficacy of a new antibiotic against scrub typhus. The drug, Chloromycetin (chloramphenicol), had been developed by Parke, Davis and Company[2] and found effective *in vitro* against the causative rickettsiae.[3] But the drug was in very limited supply and could not be "wasted" on those with other diseases. Hence the need for a clinician to distinguish the various febrile illnesses before laboratory results became available.

Leaving his wife, Celeste, also a physician, and young children in Baltimore, Woodward traveled to Singapore, where the group

was met by Dr. R. Lewthwaite, a British scientist with extensive experience in scrub typhus, who accompanied them to Kuala Lumpur. There the team set up a laboratory facility, including space for entomologic studies, in the Institute for Medical Research directed by Dr. Lewthwaite. Conditions for treatment of scrub typhus were less than ideal. Woodward was required to travel throughout the city in search of patients in different hospital wards and clinics. Patient #18, a 30-year old Malay male, was admitted late in the evening with an 8-day history of headache, malaise, toxemia, diarrhea, and remittent fever. Conducting his examination by candlelight, Woodward made a tentative diagnosis of typhus and began the patient on chloramphenicol. In the light of the next day, the patient was regarded as having typhoid (subsequently confirmed by blood culture) but was continued on the antibiotic. Although he showed no improvement in the first 24 hours, by the end of the third day the patient was markedly better and without fever.

Typhoid studies

These observations prompted the group to initiate a parallel clinical study of typhoid.[4] Nine additional patients with typhoid were treated, and eight patients, receiving only supportive treatment, served as controls. The results confirmed the drug's efficacy. The duration of fever was 3.5 days in treated cases, 26 days in controls. Two of the treated patients relapsed after 10 and 16 days of becoming afebrile; both responded promptly to a second course of antibiotic. Two other treated cases suffered serious complications, one with intestinal perforation on the second afebrile day and one with massive intestinal hemorrhage on the fourth afebrile day. Both recovered after stormy courses.

Thus started Woodward's formal study of typhoid fever, which has continued to the present.

Jessup program

In 1958, four years after succeeding Dr. Maurice Pincoffs as the chairman of the Department of Internal Medicine at the University of Maryland, Woodward began a series of unique studies at the Maryland House of Correction in Jessup. The program (which continued for 17 years) was designed to study the pathogenesis and prevention of various infectious diseases unique to man and for which there was (and is) no satisfactory animal or laboratory model.

Among them was typhoid. We tend to forget how much of a problem this disease has been in our not-too-distant past. In 1930, the first year for which figures are available from the Center for Disease Control, 27,201 cases of typhoid fever were reported nationally, representing 22 cases per 100,000 population (Figure 1); undoubtedly only a fraction of those that occurred. Long recognized as an illness affecting children and young adults (Figure 2), it was with some parental trepidation that children of the author's vintage were allowed to go swimming, especially during the late summer months when the disease was particularly prevalent. By the time of discovery of a specific cure, the incidence of typhoid in the US had declined precipitously, due primarily to the increased availability of safe drinking water, sewage disposal, and public health education, and not due to any specific intervention by the medical community. Thereafter disease incidence decreased more gradually, reaching its present level of about 400 cases annually, with half being imported from abroad. It still may occur in explosive fashion as a 1973 outbreak of 222 cases in migrant workers in Dade County, Florida attests. In other countries, however, it remains hyperendemic. In Jakarta, Indonesia, typhoid is the second leading cause of hospital admission and death in 10-29 year olds (author's unpublished observations).

Parenteral Vaccines

The first typhoid vaccine was produced by Sir Almroth Wright in England in 1896.[5] It consisted of killed typhoid bacilli and was given by injection to a horse and two British colonial medical officers. One of the latter was subsequently challenged with viable or-

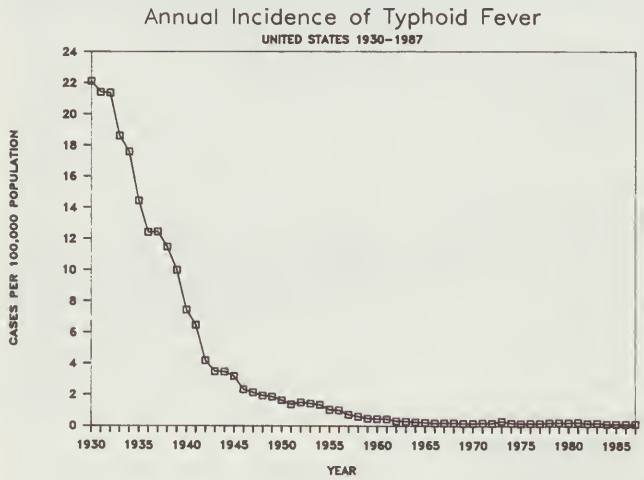


Figure 1

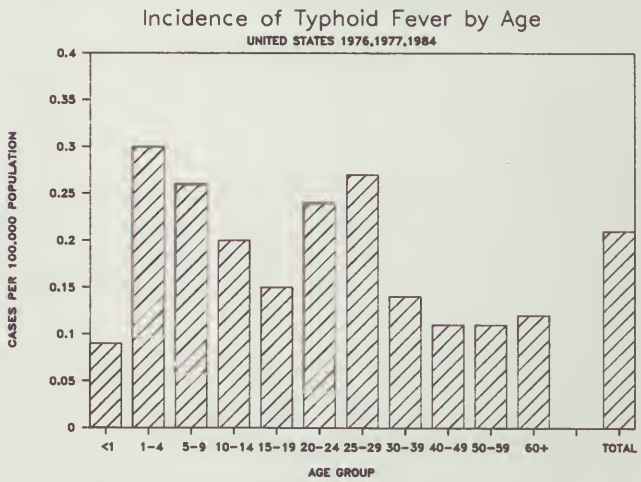


Figure 2

ganisms and remained well. It was largely on this basis that tens of thousands of British troops and officers were immunized during the Boer War in South Africa at the turn of the century. And it was on this basis that Russell in 1911 made killed parenteral vaccines mandatory in the US Army, a practice that persisted for decades.

A host of largely uncontrolled trials of parenteral vaccine ensued over the next half century. Results were contradictory. It was not until the late 1950s and early 1960s that the first properly controlled field trials were conducted in Yugoslavia, British Guiana, Poland, and Russia, all but the last under the auspices of the World Health Organization.[6,7] The most widely quoted study in British Guiana showed protection of more than 90 percent with an acetone-inactivated and dried preparation of whole cells given to school children. It was not possible, however, to determine any effect of prior immunity acquired by natural exposure to disease in this hyperendemic setting.

With this knowledge, the Jessup volunteer studies were conducted by Woodward, a host of other investigators under his tutelage, and his longtime associate, Dr. Richard B. Hornick. A total of 67 clinical protocols were undertaken over the years, with the ultimate goal of developing a more effective vaccine.

The studies employed almost exclusively the Quailes strain of typhoid, derived from a chronic carrier, in order to eliminate the vagaries of strain variability. Among many findings, these are of special note:

1. The infectious dose was established. One thousand organisms did not cause illness; 100,000 organisms caused illness in 28 percent, 10,000,000 in 50 percent, and one billion in 95 percent.
2. The severity of disease varied directly and the incubation period inversely with the size of the inoculum.
3. Chloramphenicol was superior to ampicillin in the treatment of those volunteers who became ill, reducing fever to normal in 3.5 days versus 6.0 days, respectively.
4. In exquisitely designed physiologic studies, Dr. Sheldon E. Greisman demonstrated that typhoidal illness could not be explained by the action of endotoxin alone.

The parenteral vaccines used by the British in South America were decidedly less efficacious in the immunologic virgins of the volunteer setting. Killed oral preparations, commercially available in Europe at the time, were completely ineffective in preventing disease, even when the vaccine was given in twice the recommended dosage. The most significant protection (87 percent) was afforded by a living attenuated vaccine (strain Ty21a) given by mouth in multiple doses. None of the vaccine recipients developed any side effects, nor did the vaccine ever revert to its virulent parent form. On the basis of the volunteer studies, field trials of the vaccine have been conducted in Egypt, Indonesia, and Chile. Results have been fair to excellent, dependent on dosage preparation and number. The vaccine has been available for several years for purchase in many countries, including most of western Europe, but not in the US.

This demonstration of an effective oral vaccine followed by 70 years the first recorded trial of another typhoid oral vaccine, also conducted by a Marylander. In 1904, Lieutenant James Carroll, English born, a graduate of the University of Maryland School of Medicine, and a deputy of Walter Reed in his famous Cuban studies of yellow fever, gave an ostensibly inactivated typhoid preparation to 13 US Army volunteers (including himself). Unfortunately, seven men contracted clinical typhoid, and three more were probable cases. The results were not made public until 1959,[8] and the oral approach lay fallow until the 1970s in Jessup.

Finally, earlier studies by Woodward and others had indicated in 1951 that high-dose, short-course corticosteroids, in concert with antibiotics, were effective in reducing the period of clinical toxemia without enhancing the likelihood of complications such as intestinal perforation or hemorrhage.[9] These studies were uncontrolled, however. It remained for Woodward to stimulate further investigation in the early 1980s by Hoffman and others in Jakarta, where typhoid is particularly virulent and where dexamethasone was shown significantly to reduce mortality in the gravely ill. [10] It is to these and similar studies of supportive care by many others that we may attribute the reduction in typhoid mortality (Figure 3).

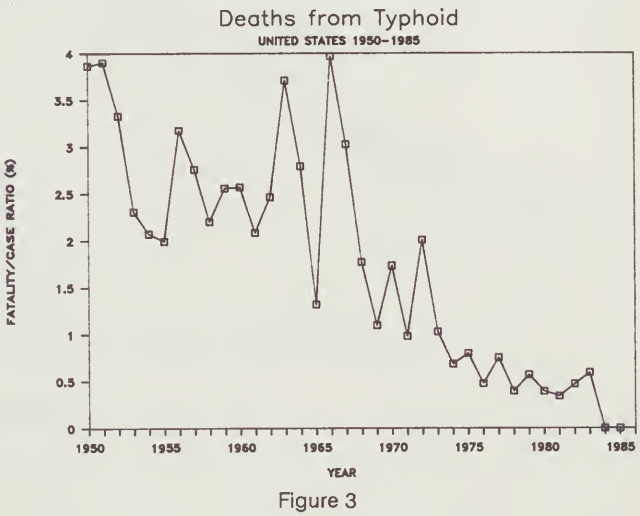


Figure 3

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Theodore Englar Woodward was born in 1914, raised in Westminster, Maryland, and received his early education there. His father and grandfather were both general practitioners, the latter having moved to Westminster from near what is present-day Wilmington, Delaware. The last of four sons, Dr. Woodward's eldest brother, Lewis K. Jr., was the medical director of the U.S. Department of State for 10 years.

A portion of Dr. Woodward's early years were spent on Meadowbrook Farm in Westminster. The first deed to the farmland was granted by Lord Charles, Proprietor of Maryland, in 1740. It was acquired by Dr. Woodward's ancestor, John Roop, in the late eighteenth century and is still producing crops for Carroll County. The farmhouse, originally built in 1805, has recently been restored and is registered by the Maryland Historical Society. It is said to have been the first home in Carroll County with indoor plumbing. The author currently lives there. ■

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International Nutrition Research by a Maryland Physician

Chris Kjolhede MD, MPH

Dr. Kjolhede, a member of the Faculty of the Department of International Health, The Johns Hopkins University, has research and consulting experience in Indonesia, Mozambique, and Guatemala.

A major international nutrition project has lasted for almost three decades, primarily through the efforts of one Maryland scientist and pediatrician.

The arid, windswept, dusty, dilapidated, crowded shanty towns (*pueblos jovenes*) around Lima, Peru are as familiar to Professor George Graham as his present Maryland home. Dr. Graham is half Peruvian, fluent in Spanish, and knows the medicine, politics, economics, and culture of Peru. His interest and involvement in Peru has continued over the years from his home base in Maryland.

Receiving his MD from the University of Pennsylvania in 1945, Dr. Graham trained in pediatrics at the British-American Hospital in Lima, and at the University of Pennsylvania. He was Chief Resident in pediatrics at Baltimore City Hospital under Dr. Harold Harrison. He was Chief of Pediatrics at the British-American Hospital, Lima, for four years, worked at the Cleveland Clinic, and subsequently has been an attending pediatrician at the Baltimore City (FSK) Hospitals and Johns Hopkins. Dr. Graham has held academic appointments at the Schools of Public Health and Medicine of Johns Hopkins, MIT, and the Agrarian University, Lima, Peru.

Despite his demanding clinical duties, he saw opportunities for research and teaching in Lima and began to seek support for his ideas. He received National Institutes of Health (NIH) grant for research in malnutrition among Peruvian children. In initial research space provided by the Research Department of the British-American Hospital, investigations were carried out with Pan American Health Organization funding. Subsequent grants from NIH, UNICEF, and The Thrasher Foundation have been managed by Dr. Graham as Professor of International Health at Johns Hopkins.

The Instituto

The venue and the umbrella organization for the various nutrition investigations have changed over the years, but Dr. Graham has remained steadfast in his commitment to quality and germane nutrition research projects. Research activities were associated with the British-American Hospital from 1961 to 1971, when the

Insituto de Investigacion Nutricional became an independently functioning body while continuing to use space in the hospital. In 1982, the Instituto moved to its own facility on land donated by the government of Peru. This new facility had not only up-to-date laboratory space and equipment but also both out- and in-patient service areas. Adjacent to the grounds of the Instituto were the Peruvian Food Technology Institute, the International Potato Center (potatoes originated in Peru), and the Agrarian University. There has been a fruitful working relationship with all these institutions over the years.

Research Findings

The Instituto has been the source of numerous discoveries that had application in Peru as well as in other areas of the world where malnutrition is a problem. Early work concentrated on the design of treatment diets. The determination of the composition of numerous local foods[1,2] has been essential for designing local and regional nutritional intervention.[3-6]

It was at the Instituto that copper deficiency was first described in children recovering from severe malnutrition.[7] Lactase deficiency in children in severe states of malnutrition was described by Dr. Graham and co-workers from the Instituto.[8] The discovery of lactase deficiency in Peruvian children had important implications for the US government and relief agencies providing food aid for refugees and people during famines and disasters. The Biafran war famine prompted the Instituto's research team to develop a mixture composed of casein, cane sugar, and vegetable oil for the treatment of kwashiorkor among refugees.

Unconventional protein sources have been sought in an effort to design a diet both acceptable and available to those suffering from acute and chronic malnutrition.[9] The Instituto has pioneered clinical work on the difficult problem of availability of calories and proteins in various foods (similar to bioavailability) as contrasted to merely measuring calories and protein in the food.[10-12]

Training

The Instituto has been an avenue for the exchange of numerous students and residents. Two professors of Nutrition and two directors of research for leading US, nutrition corporations received their field experience at the Instituto. Nine Peruvians have found training positions or further education in the US, most here in Maryland. Some thirty American medical and undergraduate students and pediatric residents have had the opportunity to experience the ongoing activities at the Instituto. This level of collaboration continues with the support of Dr. Graham.

Dr. Graham's roles in the Instituto include senior researcher (Director of Research), senior clinician, author of grant applications, fund raiser, and President of the Board of Trustees. This involvement and commitment won him the AMA's prestigious Goldberger Award and made him "Maryland's ambassador for Human Nutrition to Peru."

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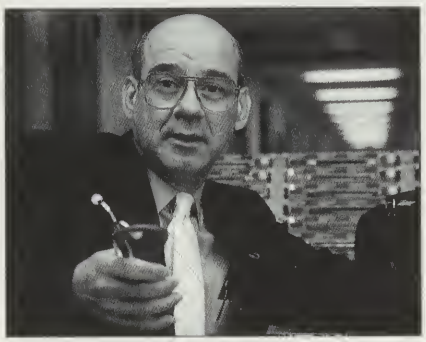
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Statistics and Soap Operas: Population Dynamics at Hopkins

Winthrop Morgan MPH

The author is a Program Officer at The Johns Hopkins University/Population Communication Services in Baltimore.

What other School of Public Health can claim top-rate oogenesis lab, the first female director of a UN program, and a hit song on the top of the Mexican hit parade? Here's how the Population Dynamics Department at The Johns Hopkins School of Hygiene an Department has given new meaning to the term interdisciplinary collaboration.

Over the course of 30 years the Johns Hopkins School of Hygiene and Public Health, has developed its reputation as one of the world centers in research and professional training in population dynamics. Since its formation in 1964, the Department of Population Dynamics at the school has proved one of the most fertile resources for innovations and advances in the field. Faculty, students, and associates literally ring the globe. They teach, work, and provide technical assistance from Baltimore to Bangladesh.

The Interdisciplinary Approach: Joint Successes by Strange Bedfellows

Unique to Population Dynamics at The Johns Hopkins University (JHU) is its emphasis on an interdisciplinary approach to its field. Hopkins was the first to combine the resources of laboratory researchers with those of demographers and family planning program managers. Unlike most institutions, where biologists primarily are affiliated with the medical faculty and planners with management, Hopkins established a tradition of encouraging collaboration of an array of specialists under the same roof.

Twenty-one core faculty and almost 100 graduate students come from every continent and a wide breadth of experiences compose the Department. The three divisions of Reproductive Biology, Demography, and Reproductive Health and Family Planning Administration form the core of the Department. In addition, the JHU Center for Communication Programs, Johns Hopkins Program for International Education in Gynecology and Obstetrics, and Hopkins Population Center provide leadership in international family planning Information, Education, and Communication (IEC) research and development.

Because of its diverse resources and commitment to interdisciplinary interchange, it is not unusual to hear of projects such as "Tatiana and Johnny." In this project two Latin American teen singing stars performed a pop song with an underlying message to their peers: it's alright to delay sexual activity until you are older. Unlike most pop songs, the tune and lyrics were based on scientific

research by Hopkins associates to determine the best way to positively affect behaviors of Latin adolescents within the bounds of the culture. The joint effort of demographers, social scientists, and communication specialists resulted in the first public service message to hit the Top Ten of the Pop Charts in almost a dozen countries and generated enormous demand for information on family planning in these areas. Similar successful approaches are being used in Asia and Africa guided by Hopkins professors.

Researchers and professors have also been able to concentrate in their own disciplines. For example, population researcher Dr. John Kantner has pursued his surveys on the sexual behavior, contraceptive use, and pregnancy of young women in America over the past 20 years. His 1971 survey was the first of its kind; the insight it gave precipitated a national rethinking of family planning policy. Similarly, Dr. L.P. Chow, former director of Taiwan's family planning programs and professor at Hopkins for over two decades, teaches both in Baltimore and the Peoples Republic of China. In Reproductive Biology, Dr. Allen Schuetz continues his work in oogenesis and ovulation, while in Demography, Dr. Stan Becker experiments with village-level data collection procedures.

From Baltimore to Bangladesh: International and Domestic Applications of Population Dynamics

This singular marriage of the social, biological, and management sciences relating to human reproduction and population studies arose from the international work of pediatrician and Department founder Paul Harper in the 1950s and 60s, but the fruits of the experiment in collaboration have been applied abroad and at home .

Harper's international work in population planning fueled his determination to build the Department. During his travels in the Pacific Basin in the 1950s, he was impressed with the advances of his Asian colleagues in family planning program development. To share these experiences with students from around the world, he established a Visiting Professors program at Hopkins with the assistance of the Rockefeller Foundation. The tradition of maintaining the program as an international hub for a network of population specialists continues today; some of the original Visiting Professors regularly lecture graduate students in Baltimore.

The Visiting Professors program built links among the disciplines in Baltimore, but it was Harper's involvement in assisting the government of Pakistan with its population programs that provided the impetus to establish the Department. Harper saw how the Pakistan project provided an opportunity for researchers, professors, and students from a wide array of disciplines to collaborate on addressing the problem of the population explosion in an emerging nation. He and his colleagues became convinced that national population planning efforts were vital in emerging nations to cope with the problems of limited resources. They also were convinced that such efforts required a special kind of professional to run them. Leaders were needed who not only could handle administrative matters but also were trained in the biological and clinical aspects of population planning. Harper determined to establish a separate department of Population Dynamics to complement the Department of Maternal and Child Health he already had established, which could produce well-rounded professionals capable of participating in the design, administration, and monitoring all aspects of a national family planning program. Created in 1964, the interdisciplinary Division of Population Dynamics by 1970 had grown to Departmental status.

The training program of the Department produced exceptional planners, managers, and technical assistants. Dr. Nafis Sadik, Director of the United Nations Population Fund, and first woman appointed Director of a UN division, is a Hopkins graduate. Hundreds of other senior-level officers of population programs in developing and developed countries trace their professional roots back to Hopkins. And at the School, the faculty, students, and associates form one of the greatest concentrations of biologists, communication specialists, policy advisors, and managers working together to understand and help to meet the great population challenges facing the world.

Departmental work in international family planning programs is complemented by advances in domestic work, some of it applied to Baltimore. For example, while Drs. Paul Gray and Anouch Chahnazarian assist with demographic impact surveys in Haiti, Bangladesh, and Zaire, Dr. Constance Nathanson is examining the impact of sexually transmitted diseases and pregnancy in young adult clients of Baltimore's clinics. Dr. L.P. Chow is working on establishing the first School of Public Health in China and assisting with cost-effectiveness evaluations for Baltimore family planning initiatives. While Dr. Robert Kambic closely monitors Natural Family Planning projects in Africa, Dr. Laurie Zabin conducts research on the consequences of early abortion and childbearing on urban adolescents here at home.

Making "Soaps" and Obstetricians: Hopkins Affiliated Centers

Hopkins also maintains its tradition of applied research and development through the affiliated centers of the Department of Population Dynamics: the Center for Communication Programs, Program for International Education in Gynecology and Obstetrics, and the Population Center.

The *Center for Communication Programs* includes Population Communication Services (PCS), which provides assistance to health professionals in Africa, Asia, Latin America, and the Near East. PCS specializes in promoting family planning and health through

innovative applications of information, education, and communication techniques. They combine scientific research techniques with marketing talent to build awareness and understanding of various health issues and to promote positive behavior changes in targeted audiences. Calling on the talents of a wide range of academicians, commercial advertisers, and family planning specialists, PCS works to help governments transmit socially responsible health messages to their people in the most effective way. PCS operates with a budget of over $30 million from the USAID.

The unconventional successes of PCS have earned it a reputation as a maverick leader in the new fields of social marketing, enter-education (the use of entertainment channels to promote social messages), and cost recovery. The program excels in adapting commercially proved methods such as including promotional messages in dramatic entertainment, creating memorable images using sophisticated audio/visual techniques, and building campaign themes based on extensive audience research. For example:

- In Mexico, PCS helped develop a television soap opera that reached millions of women with messages about family planning. Enrollment of women in local family planning programs increased by one-third in the year following airing of the show. Additionally, contraceptive sales rose 23 percent, compared with only a 7 percent rise the previous year.
- In Nigeria, PCS helped develop a multimedia campaign involving posters, radio spots, and appearances of singing nurses at local markets to promote an expansion of family planning services in one region. During the next three years,the number of new acceptors of family planning increased from 258 per quarter to over 3,500 per quarter.

PCS and the Center for Communication Programs (CCP) regularly share their experiences with family planning professionals around the world. In the past few months, CCP has sponsored international seminars in Advances in Family Planning Communication and specific topics such as enter-education.

In addition to its work through PCS, the CCP keeps the public health community up to date on biomedical, demographic, and social issues related to population dynamics through its Population Information Program (PIP). PIP publishes a *Population Reports*, a bimonthly review of population and contraception-related issues, and maintains POPLINE, the world's only computerized bibliographic database covering both medical and social aspects of population.

The *Johns Hopkins Program for International Education in Gynecology and Obstetrics* (JHPIEGO) was established in 1974 with support from USAID to provide specialized education to physicians, nurses, midwives, administrators, and medical students in reproductive health care skills. Over 40,000 professionals from more than 120 countries have participated in JHPIEGO training seminars in Baltimore and its regional training centers in Africa, the Near East, Latin America, and Asia. The Program seeks to strengthen clinical skills, management capabilities of professionals; it also helps local governments institutionalize these courses in local training centers. JHPIEGO also offers equipment, training materials, and funding to support training activities throughout the world.

The *Hopkins Population Center*, a University consortium designed to support and promote interdisciplinary research and training in population studies, provides facilities and services to a diverse array of researchers to assist them in pursuing investigator-initiated programs. Facilities include a Data Processing Unit, an Information Unit, a Mathematical and Statistical Services Unit, and Electron Microscopy and Radioimmunoassay Units.

Future Plans

The Department of Population Dynamics initiatives reflect the intention of Chairman W. Henry Mosley to continue a tradition of interdisciplinary collaboration. With the Departments of Epidemiology and Environmental Health, a groundbreaking study of the reproductive risks among workers in the computer industry is under way. In collaboration with the Department of International Health, policy support is being provided to Nigeria as it develops a national family planning program. In addition, the Department is spearheading a schoolwide technical assistance effort as the government of the People's Republic of China prepares to open the first School of Public Health in China.

Summary

Since its inception in 1964, the Department of Population Dynamics has broken new ground in building interdisciplinary collaboration among the diverse fields of biological, social, and management sciences. The collaboration has produced uniquely well-prepared professionals, yielded some innovative research efforts, and advanced training and communication in the field of family planning. From Dr. Paul Harper's determination to build a center for sharing experiences in population planning, a world center for population dynamics has grown. ■

MRI UPDATE

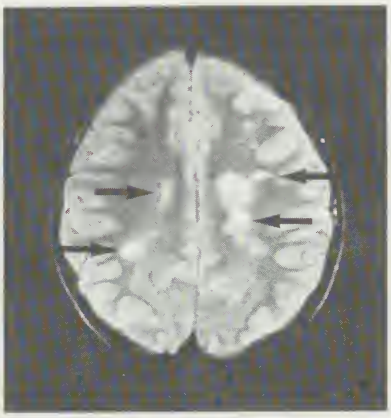


Figure 1

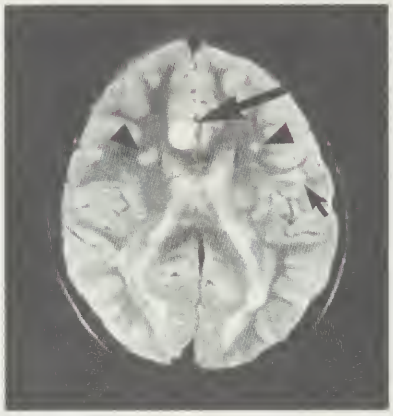


Figure 2

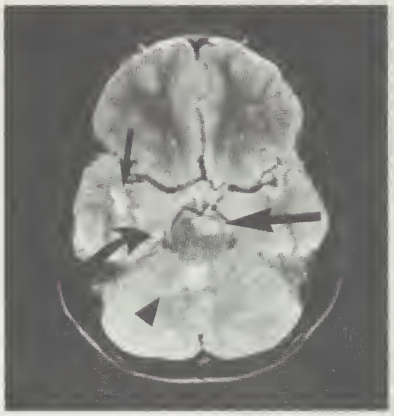


Figure 3

CLINICAL INFORMATION: Recently, there has been much discussion in the literature of the neurological symptoms caused by the spirochete borrelia burgborferi. The disease is transmitted by a tick bite and is associated with clinical symptoms of headaches, multiple arthralgias, and non-specific neurological symptoms. Given the appropriate clinical history, a diagnosis of Lyme disease can readily be confirmed by an MR scan.

FINDINGS: Figure 1 is a T2-weighted axial image through the brain. Abnormal focal areas of increased signal intensity can be identified within the centrum semiovale bilaterally (small arrows). These lesions are primarily located within the white matter but are of differing sizes. Figure 2 is also an axial image through the brain but at a level through the lateral ventricles. This section shows a lesion located within the medial gray matter of the right frontal lobe anterior to the corpus collosum (large arrow). Additional areas of abnormal increased signal intensity can be identified adjacent to the occipital horns, in the gray-white matter interface of the left parietal operculum (small arrow), and in the deep white matter of the frontal lobes in the region of the anterior corona radiata (arrowheads). Figure 3 is through the posterior fossa as well as the lower frontal and temporal lobes. Abnormal areas of increased signal intensity are demonstrated in the left anterior pons (large arrow) in the anterior right temporal lobe (small arrow), in the right cerebellar peduncle (arrowhead), and in the medial right temporal lobe (curved arrow).

The MR images clearly demonstrate the predominantly white matter involvement, multi-focal nature, and the absence of mass effect associated with these lesions. In the absence of clinical history, the MR appearance would be most consistent with a demyelinating process such as multiple sclerosis. However, as this case presented in a nine year old male following exposure to ticks, the differential diagnosis becomes that of Lyme disease. The diagnosis was further confirmed by the findings of similar, although less extensive lesions, in the patient's sibling.

COMMENT: The patient in the case above had a CT scan prior to the MR study which was negative. This case clearly demonstrates the increased sensitivity of MR over CT in detection of white matter processes. However, the case also demonstrates the relative non-specificity of the findings. In this case, the clinical history was most important in determining the true etiology of the patient's findings.

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Battling Blindness Throughout the World: A Team of Scientists in Maryland Leads the Way

Jean H. Humphrey RD, MSPH and Alfred Sommer MD, MHSc

Here in Maryland an interdisciplinary team is combating the worldwide scourge of preventable blindness through clinical, epidemiologic, and laboratory research, training, and action programs.

Over 40 million people are blind today, 75 percent of these from preventable or curable causes. Many are unable to work, placing a heavy burden on themselves and others; most live in developing countries throughout the world. How are Maryland institutions helping solve this worldwide problem? The Johns Hopkins Dana Center for Preventive Ophthalmology is dedicated to preventing blindness throughout the world by the innovative application of public health methods and appropriate technology. The Center, directed by Dr. Alfred Sommer, has grown from an initial faculty and staff of 4 in 1980 to 48 by 1989. Clinical ophthalmologists, epidemiologists, biostatisticians, nutritionists, computer scientists, biochemists, and immunologists all work together in labs and offices in the Wilmer Eye Institute. The Center is a joint undertaking of The Johns Hopkins Schools of Medicine and of Hygiene and Public Health.

By the end of its first decade, the Center has contributed to combating the world's major causes of blindness by demonstrating the viability and value of a focused multidisciplinary approach to the problem and by using the ability to "leverage" interest by serving as a bridge between the worlds of clinical ophthalmology and public health. Examples of major contributions are

- Recognition of the importance of adequate vitamin A for the survival of young children,[1,2] and the demonstration that a public health program of ingestion of supplemental vitamin A can dramatically reduce the risk of eye disease and death.
- Documentation of the public health importance of ultraviolet light for the formation of cataract.[3]
- Demonstration of the value of ivermectin as the first safe drug for the treatment and control of onchocerciasis (river blindness).[4]
- Elucidation of the mechanisms underlying blinding trachoma and recognition that in some communities simple face-washing may provide the most practical means of control.[5]
- Development and application of new techniques for glaucoma screening including targeting of groups at particularly high risk of disease.[6]

- Initiation of the first postgraduate degree program in Public Health/Preventive Ophthalmology.

The Dana Center has been officially designated by the World Health Organization (WHO) as a Collaborating Center for the Prevention of Blindness, Xerophthalmia, and Onchocerciasis. The staff exchanges expertise and experience, plans strategy, and shares responsibility for specific programs with WHO, USAID, and other international agencies, private voluntary organizations; and other academic institutions.

Current Center activities span a wide range of ophthalmic and vision care problems: xerophthalmia, onchocerciasis, trachoma, cataract, and open-angle glaucoma are top priorities.

Xerophthalmia (Nutritional Blindness)

Xerophthalmia, from vitamin A deficiency, is the most common cause of preventable blindness in children. Each year there are five to ten million new cases, and up to a half million patients becoming blind.[7] Dietary deficiency of vitamin A often is exacerbated or precipitated by such illnesses as protein-energy malnutrition, diarrhea, respiratory disease, and measles. Vitamin A is essential for the formation of "visual purple" and for normal differentiation of mucosal membranes (which cover the eye, the respiratory and gastrointestinal tracts, and other epithelial tissues). Until recently, it was not recognized that "mild deficiency," characterized by night blindness and Bitot's spots, conferred any inherent risk for systemic disease. However, a longitudinal field study conducted by Dr. Sommer and Indonesian colleagues in Java[1] in the early 1980s revealed that children with mild xerophthalmia died at 4 to 12 times greater rates than did clinically normal children. This excess mortality risk appeared to be mediated through infection.[8] Mild xerophthalmia doubled the risk of respiratory and diarrheal infections, the two leading causes of preschool child death in developing countries throughout the world. These data indicated that mortality could be reduced 15 to 20 percent by controlling clinical xerophthalmia alone.

Following the longitudinal study, a randomized community-based controlled trial addressed the question of whether vitamin A supplementation could reduce mortality and morbidity in endemically deficient regions. Semiannual distribution of 200,000 IU vitamin A capsules reduced mortality in young children by 34 percent. This reduction was even greater than the impact predicted by controlling xerophthalmia alone, suggesting that even subclinical deficiency carries an excess risk of disease and death. Field studies have documented that vitamin A supplementation also improves growth and hematopoiesis.[9,10]

Measles remains a life-threatening disease for young children throughout the world and is known to result in rapid deterioration of vitamin A status. In a hospital-based study in Tanzania, oral vitamin A reduced measles-associated mortality by 50 percent.[11] This provided the basis for the WHO/UNICEF recommendation that measles patients routinely receive high doses of vitamin A.[12]

Current activities include a correlative clinical, laboratory, and treatment trial in Java examining the effect of vitamin A status and xerophthalmia on immune competence. Two randomized, controlled community trials of the impact of vitamin A prophylaxis on health and survival are under way in Nepal and Ethiopia to quantify health impact in these varied cultural and environmental settings.

Lessons learned in the developing world are carried home to Maryland. In Baltimore, a randomized controlled trial investigating the impact of vitamin A supplementation in preventing bronchopulmonary dysplasia



Onchoceriasis in blind adult led by child, who is in grave danger of becoming blind. Chad. (Photo A. Buck)

and retinopathy of prematurity among very low birthweight babies is being carried out in collaboration with The Johns Hopkins deapartment of neonatology.

Onchocerciasis (River Blindness)

Onchocerciasis is widespread throughout sub-Saharan Africa in both savanna and forest areas with smaller foci in South and Central America. It is especially common along rivers and streams. Worldwide 85 million people are exposed; 17 million infected, 1 to 2 million visually impaired, and 350 thousand irreversibly blind.

The disease is caused by infection with *Onchocerca volvulus*, which is transmitted by the bite of a black fly. Generally, infection occurs in childhood, and sight is lost during the productive years.

In the eye, the microfilariae cause blindness from either corneal scarring (sclerosing keratitis) or retinal destruction (chorioretinitis). The amount of blindness varies with the severity of infection and also with the geographic area; in the worst savanna areas, half of all adults older than 40 in a village can be blind. A new microfilaricide, ivermectin, is the first safe and effective treatment for this blinding scourge. Treatments need to be repeated annually until the majority of adult worms have died.

Under the direction of Dr. Hugh Taylor, the Center has taken the lead in the groundbreaking studies of ivermectin that led to its registration for human use in November 1987.[4]

Currently, the Center is assessing the long-term safety, compliance, and efficacy of mass distribution of ivermectin and its impact on transmission of infection by treating 14,000 people in Liberia. This study will provide the background information needed for large-scale distribution and demonstrate the feasibility of using ivermectin to control onchocerciasis on a community basis.

Trachoma

Trachoma is the most common infectious cause of blindness. In total 350 to 500 million people are affected and 5 to 10 million become blind from *Chlamydia trachomatis* infection. Trachoma as a blinding disease has almost disappeared in the United States and Western Europe, where it once was prevalent, as the standard of living has improved. However, trachoma remains a major problem in most developing areas where personal and family hygiene is poor.

Blindness rates are often higher in women, probably due to their continued exposure to infection during the child-rearing years. Although the early stages can be treated with common antibiotics, mass treatment campaigns have little sustained impact without changes in hygiene. Early degrees of trichiasis often can be reversed by surgery and so prevent blindness.

In large-scale epidemiologic studies in endemic areas in Africa and Central and South America, key components of personal and family hygiene (especially face washing) were identified that reduce the risk of trachoma. These discoveries opened the way for the development of effective public health interventions. Initial ethnographic studies in Tanzania have explored practices and constraints associated with face washing. The understanding of the linkage between water availability and face washing has led to community based health education interventions that are being tested for their efficacy in reducing trachoma.[5] In collaboration with WHO, a simplified trachoma grading system for field studies and use by primary health care workers was developed. Now in use worldwide, it has greatly enhanced field studies of trachoma.

To simplify and improve the surgery for trichiasis, a randomized controlled surgical trial is being undertaken in Oman. Different types of surgery are assessed for different stages of trichiasis. In the laboratory, a monkey model of trachoma developed by members of the Dana Center has demonstrated the biologic necessity of repeated episodes of infection to sustain the chronic destructive inflammation.[13] Further studies identified the key antigen responsible for initiating much of the disease process. Studies continue to determine how the individual responses of inflammatory cells in the conjunctiva lead to scarring and blindness.

Further studies in monkeys have identified a specific chlamydial antigen that induces a protective immune response, reducing subsequent eye disease.[14] Vaccines based on this antigen are being developed; in the future it may be possible to prevent the earliest stages of infection.

Cataract

Cataract causes more than half of all blindness in the world. Today, more than 20 million people worldwide are blind from cataract because fewer than 20 percent who require surgery receive it. Cataract is a particular problem for developing nations where it appears to occur about three times as often and 10 years earlier in life. Yet these countries are least equipped to provide needed surgical services.

Interest developed in international contexts has been applied here in Maryland. In a longitudinal evaluation of watermen living on the Eastern Shore of Maryland, ultraviolet-B (UV-B) radiation was shown to be an important risk factor for cataract.[3] This study also showed how the simple measures of wearing sunglasses and a hat protect the eye from UV-B exposure.

A large-scale, cross-sectional survey of subjects followed in the Baltimore Longitudinal Study of Aging will be analyzed to evaluate the role of medical and nutritional factors in the etiology of both cataract and macular degeneration.

Substantial advances in cataract surgical techniques in recent years have resulted in a dramatic increase in the number of cataract extractions done in the United States. Currently, more than one million operations

are performed each year at tremendous cost to patients, government, and health insurers. Despite these important advances, there remains wide variation in the surgical procedures used as well as in the type and intensity of surrounding medical services. Faculty of the Dana Center in collaboration with health service researchers from a wide variety of departments at Johns Hopkins are examining the sources and reasons for the current variations in cataract surgical practice and are in the process of identifying a set of recommended cataract management guidelines that can serve as reliable quality-of-care indicators for practice pattern evaluation.

Open-angle Glaucoma

Open-angle glaucoma is a leading cause of blindness affecting 1 to 6 percent of adults worldwide. It is particularly prevalent and severe among blacks, in whom optic-nerve damage occurs earlier and progresses faster. This racial difference has major implications for Baltimore.

Research at the Dana Center has focused first on identifying risk factors amenable to intervention or that could be targeted for screening and education.

A second priority has been the development of new methods for visualizing the nerve fiber layer (NFL).[6] By defining normal variation, and developing a new approach to the interpretation of threshold perimetry (cross-meridional comparison), a practical and reliable means has been created for distinguishing between normal subjects and patients with early glaucomatous field loss.

Follow-up of two large populations of glaucoma patients and suspects will establish the validity and value of these new and improved techniques.

Training

The Dana Center has a strong commitment to the training of new leadership for blindness prevention programs at national and international levels. The Center provides a master's degree program as well as a formal postdoctoral fellowship program.

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Reverse Foreign Aid : The Foreign Medical Graduate

Timothy D. Baker MD

Dr. Baker is a professor at the School of Public Health and Hygiene, The Johns Hopkins University, Baltimore.

Maryland has received a great gift of dedicated hard-working FMGs whose basic education was underwritten by other countries. It is time we considered ways to return the gift.

Every year for the past 18 years the State of Maryland has received the equivalent of almost $25 million in "reverse foreign aid" primarily from the poor countries of the world. This reverse foreign aid is in the form of 2,200 new foreign medical graduates (FMGs) who have taken up the practice of medicine in Maryland. Since 1970, 75 percent of these physicians received their basic medical training in the less-developed countries (LDCs) of the world, but they will serve the citizens of Maryland through their careers.

The cost of US education for a replacement for one of these physicians is modestly estimated at $200,000. Thus, the replacement costs for the 122 FMGs/year (2,200/18 yr.) would come to $25 million.

What does the State of Maryland do for the countries that provided so much training for these physicians? Really very little. Maryland's share of the cost of US foreign aid health programs is very small in comparison to Maryland's benefits received from the services of these well-trained, conscientious FMGs mostly from the less-developed countries of the world. Maryland has approximately 2 percent of the US population. The annual foreign aid health budget is approximately $260 million; Maryland's share may be estimated at $5.6 million. An appreciable amount of the US foreign aid health money is spent in Maryland. The number of US pysicians trained in Maryland who are working full time in foreign countries is less than 1 percent of the number of FMGs working in Maryland. What is true of Maryland receiving "reverse foreign aid" in the form of FMGs is true of the other states in the United States.[1]

Distribution of FMGs in Maryland

In the United States, over 20 percent of all nonfederal physicians are foreign medical graduates. In Maryland, we have received even greater benefits from the less-developed countries of the world, as almost 30 percent of our Maryland physicians are FMGs. There is a general misconception that FMGs tend to go into hospitals in large cities rather than practicing in communities in the US. The evidence shows that only one-fourth of FMGs work in hospitals,

the same percentage as US medical graduates. (The overall US percentages are the same as Maryland.)

In Maryland, only 3 percent of FMGs work for the federal government, while 9 percent of US medical graduates are federal physicians. For the US, 4 percent of all MDs work for the federal government. The higher percentage is due to the NIH and other large federal physician employers located in Maryland.

Thus, the majority of FMGs are providing direct service to the citizens of Maryland.[2]

Countries of Origin

There has been considerable change in the countries that are major contributors to Maryland's FMG resource. In 1970 there were 72 countries whose graduates were practicing in Maryland. Many of these countries had less than 10 graduates. The 15 larger contributors (over 50 graduates) are shown in the Table 1.

The majority (82 percent) of all of Maryland's FMGs in 1970 were engaged in patient care. At that time, almost twice as many were in hospital-based as in office-based practice. FMG house staff considerably outnumbered full-time FMG hospital staff, a marked contrast to the situation today in Maryland. Less than 10 percent of all FMGs at that time were engaged in research. Of those engaged in research, over 10 percent were from Japan. (Over 33 percent of all Japanese FMGs in the United States are located in Maryland.)

There was an "open door" policy for the immigration of FMGs until 1976 when preference status for physician immigrants was withdrawn. In the early 1980s the number of available residency places also declined. In 1970, 30 percent of FMGs were house staff. This percent has declined considerably.

In 1986 (the most recent year for which published FMG information is available for Maryland), one finds a quite different picture. Almost twice as many FMGs are in office practice as in hospital-based practice and the full-time hospital staff outnumber the residents and interns. This shift reflects the markedly decreased number of hospital training positions for FMGs today.

Table 1. Countries Providing Maryland with over 50 Doctors in 1970 [3]

Argentina	59	Japan	53	Switzerland	60
Cuba	113	Peru	65	Thailand	74
India	129	Philippines	385	Turkey	57
Iran	115	South Korea	108	United Kingdom	69
Italy	56	Spain	74	West Germany	105

Table 2. Countries providing Maryland with Over 75 doctors by 1988[5]

India	756	Lebanon	112	Thailand	91
Iran	200	Mexico	225	Turkey	78
Ireland	88	Pakistan	121	UAR	73
Italy	87	Philippines	562	Korea	197
Taiwan	76				

There is also a new phenomenon since 1970: US born FMGs trained in "offshore" medical schools in Grenada, Mexico, the Dominican Republic, etc. However, in 1986 they still made up only 8 percent of all FMGs in Maryland.[4]

While there were 15 countries who had given Maryland more than 50 FMGs in 1970, the number of countries providing over 50 FMGs doubled (28) by 1988. The countries with over 75 FMGs is presented in Table 2. Comparison with Table 1 shows that the doctors from less-developed counties play an even more important role than in 1970.

What might be done to redress the injustice of poor countries paying for the basic training of doctors who serve the people of Maryland?

Foreign Medical Graduates Who Return Home

If the Graduate Medical Education National Advisory Council (GEMENAC) projections of oversupply of doctors in most clinical fields is correct, Maryland will not have permanent places for new FMGs in the future. The number of residency slots in Maryland has decreased, and it is extraordinarily difficult for an FMG to be accepted. Could not clinical training programs be designed to give advanced training to FMGs and insure their return to the countries that supported their basic education? A study of "J-1 (exchange visitor) Visa" physicians shows that the majority of those trained in public health and preventive medicine in Maryland return to their homes.

In Maryland, for example, The Johns Hopkins University School of Public Health, the first graduate school of public health in this country, has over 70 years of experience in the education of FMGs. In 1921 the first graduating class had two US citizens and two Brazilians. (One of the Brazilians was one of the two physicians credited with founding the World Health Organization.)

A few vignettes of the many School of Public Health trained FMGs who returned home show that advanced training in Maryland **can** benefit the FMGs home countries.

Dr. Sushila Nayar (MPH 1949, DrPH 1950) had been Mahatma Gandhi's personal physician before coming to the United States. On her return to India she was made the Director of Health in Delhi state. In the late 1950s she was appointed Minister of Health for India. On leaving government service she founded a medical school to train doctors to serve the rural poor of India.

Dr. Abdul Zahir (MPH 1955) returned to Afghanistan and served as Minister of Health. He later became Ambassador to Pakistan and to Germany. (Physicians from countries where medicine offers one of the few opportunities to obtain higher education occasionally move into high political positions.) There has been no contact with Dr. Zahir since the Russian invasion of Afghanistan.

Dr. Luis Carlos Gonzales (MPH 1947, DrPH 1948) returned to Venezuela to lead that country's program for malaria eradication. He later served as Minister of Health. When he left Venezuela, he continued work with the Pan American Health Organization. Just before his death, Dr. Gonzales made a Spanish translation of the General Professional Education of Physicians (GPEP) report.[6] The task force preparing this report was chaired by a Maryland educator, Dr. Steven Mueller.

Dr. Volvick Joseph (MPH 1975) was appointed Minister of Health of Haiti. (The past "President for Life" of Haiti, Dr. Duvalier, was an FMG and had public health training in the US but not in Maryland!)

Dr. Zohair Sebai, born in Mecca and educated in Cairo, came to Hopkins in 1965. His training pattern points up the importance of appropriate training to insure the return of FMGs. As is the practice at The School of Public Health, Dr. Sebai was urged to return home to carry out research attuned to the problems and conditions in his own country. He worked in the remote oasis village of Turaba (see photo), under faculty supervision, then returned to the US for analysis of his data. He returned to Arabia to work in the Ministry of Public Health. He was appointed Chairman of the Department of Community Health, University of Riyadh. Then he served as Dean of the newest medical school in Saudi Arabia in Abha, Asir Province.

Many FMGs who have attended the School of Public Health have assisted their own countries in an indirect manner by service with The World Health Organization or the United Nations' agencies. Examples include: Dr. Marcolino Candau, Brazil, a Director-General of WHO; Dr. Leo Kaprio, Finland, Director-General European Region WHO; Dr. Jo Asvall, Norway, current Director-General European Region WHO; Francisco Dy, Philippines, Director-General Western Pacific Region WHO; Dr. Abraham Horwitz, Chile, Director-General of The Pan American Health Organization and American Region of WHO; and Dr. Nafis Sadik, Pakistan, Director of the United Nations Fund for Population Activities.



Zohair Sebai leads research team in rural Saudia Arabia. (Sebai)

Are the difficulties of FMGs returning to their own countries all because of inappropriate training in the United States? Certainly not. Many of the difficulties are due to cumbersome bureaucracies and prejudices against the FMG who secured education in the United States. The problems of appropriate planning for affordable utilization of doctors in poor countries is a part of the problem of international "brain drain." [7,8] However, it is beyond the scope of this article.

The example of FMGs studying preventive medicine in Maryland and then making major contributions to their own countries and to international agencies shows that at least in one field Maryland training programs make it possible for foreign physicians to receive training in the US and then return home.[9]

Could other specialties do the same? The AMA, American Board of Medical Specialties, Associate of American Medical Colleges, American Hospital Association, Council of Medical Specialty Societies, and the Educational Commission on FMGs have proposed an *International Medical Scholars Program, Inc.* to accomplish the goal of appropriate training in the United States and the return home of new FMGs.[10] The FMGs from Cayatono Heredia Medical School in Peru have formed an association and collected funds for projects in their school and in Peru. Should FMGs from other countries also take steps to help the countries that trained them?

Maryland has received a great gift of dedicated hard-working FMGs whose basic education was underwritten by other countries. It is time we considered ways to return the gift.

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Geographic Epidemiology

Alfred A. Buck MD

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Information on health problems of people in rural areas of developing countries is scarce; national health statistics are limited due to a lack of adequate diagnostic facilities and incomplete disease reporting. Generalizations from isolated observations to larger areas are fallacious because they neglect the focal nature of most endemic diseases.

The Geographic Epidemiology Unit (GEU) of The Johns Hopkins University was established in 1964 and continued its work with a full team until 1972. Its major goals were in-depth studies of endemic diseases and other local health conditions in ecologically contrasting areas of Peru, Chad, and Afghanistan by a multidisciplinary team of medical and nonmedical experts. The specific aims included:

1. Determination of distribution and frequency of specified diseases and health conditions
2. Identification and quantification of disease determinants including behavioral, entomologic, and environmental factors
3. Comparative analyses of disease patterns and of their interrelationships
4. Systematic validation studies of diagnostic methods and screening tests in communities with different disease spectra

The Team

The GEU had two epidemiologists, an anthropologist, a sanitary engineer and entomologist, two public health nurses, two laboratory scientists, and technicians. Additional team members included a veterinarian in Peru and ophthalmologists in Chad and Afghanistan. Whenever special investigations were indicated to follow-up on unexpected findings, other specialists were recruited. Over time specialists in urology, dermatology, pathology, internal medicine, leprosy, human genetics, malaria, radiology, bacteriology, and human genetics have joined the GEU. The permanent field team was supported by base laboratories at The Johns Hopkins Medical Institutions in parasitology, serology, bacteriology, blood chemistry, and hematology. The Department of Radiology developed and evaluated all chest radiographs taken in the field. The Department of Biostatistics carried out processing of integrated data and assisted in the statistical analyses.

The Countries

The criteria for final selection of Peru, Chad, and Afghanistan for the study included the degree of commitment and cooperation

of the Ministry of Health of the host country in the study, availability of local manpower, security of the team while working in remote areas without access to public services, and the range and diversity of disease problems. The communities finally selected for study were as follows. In Peru, San Antonio, a jungle village at the bank of the Rio Maranon where the Amazon River begins; Cachicoto in the transandean upper jungle region, at the banks of the Monzon River at 2,400 feet altitude; Yacango, an arid zone village at 6,150 feet altitude; and the Andean village of Pusi above Lake Titicaca at 11,800 feet altitude.

In Chad, these communities were chosen: Djimtilo at the Chari River Bank where it empties into Lake Chad, inhabited by the Arab Salamat tribe; Ouli Bangala, located in the forested savanna zone near the borders to Cameroon and the Central African Republic populated by members of the Laka tribe; Ouarai, a village not indicated on the official map of Chad, located in the central southern-most area of the country inhabited by Sara tribesmen; Boum Khebir, a remote village accessible by dirt road for only four months of the year, located at the banks of Lake Iro in South East Chad with residents of the Goula tribe; and Faya, a major oasis in the heart of the Sahara desert, with a population composed of Anakaza and Kamadja tribesmen.

Table. Endemic Infections of Public Health Importance in Villages of Peru, Chad, Afghanistan

Disease or Infection	CHAD 1	2	3	4	5	PERU 1	2	3	4	Afghanistan 1	2	3	4	Diagnostic Criteria
Malaria	+	+	+	+		+					+	+		Parasitemia Clinical DX
Chagas						+		+						Clinical Serological
Leishmaniasis			+	+			+				+	+		Clinical dx
Toxoplasma gondii	?	?	?	?	?	+	+	+	+	+	+	+	+	1HA Test > 1:64
Wuchereria bancrofti		+	+											Microfilaremia
Loa loa		+	+	+										Microfilaremia
Tetrapetalonema perstans		+	+	+										Microfilaremia
Onchocercosis		+												skin biopsy and clinical DX
Schistosomiasis mansoni		+												Eggs in stool
Schistosomiasis hematobium	+	+	+		+									Eggs in urine
Fasciolidae								+		+		+		Eggs in stool
Echinococcus granulosus										+	+	+	+	IHA >1:60
Hookworm		+	+	+		+	+							Eggs in stool
Strongyloides stercoralis		+	+				+							Larvae in stool
Ascaris lumbricoides						+	+		+	+	+	+	+	Eggs in stool
Trichuris trichiura						+	+		+					Eggs in stool
Taenia saginata			+		+				+	+				Eggs & proglotids
Hymenolopis nana							+				+	+	+	Eggs in stool
Entamoeba histolytica	+	+	+	+	+	+	+		+	+	+	+	+	Cysts in stool
Balantitium coli						+	+		+					Parasite in stool
Histoplasma capsulatum or duboisi				+			+							Skin & CF tests chest x-ray
Treponematoses														
Syphilis	+	+	+		+		+		+		+		+	FTAabs,VDRL &
Yaws				+										TP1 test,
pinta							+							clinical DX
bejel	+				+								+	
Gonorrhea	+													Clinical DX Bacteriologic
Tuberculosis	+	+	+	+	+	+	+	+	+	+	+	+	+	Chest x-ray,smear
Leprosy		+	+	+		+							+	clinical & micros
Trachoma	+				+						+		+	Clinic & micros
Epidemic typhus	+						+	+	+	+	+	+	+	CF test
Murine typhus	+	+	+							+	+	+	+	CF test
Tick-borne typhus	+	+	+											CF test
Q-Fever		+			+	+		+	+	+	+	+	+	CF test
Number of locally important public health problems	3	5	2	3	1	2	5	1	2	3	2	1	5	
Number of endemic infections in village	10	16	14	9	7	7	1	13	6	10	12	11	13	

The wide ethnic and ecologic diversity of Afghanistan was represented by the following communities: Sayedabad, a village of Moghuls, at 5700 feet altitude in the valley of the Bamyan River of the Hindukush Mountains; Bulla Quchi, an Uzbek community, located in Qunduz Province 30 miles south of the border with the USSR; Gawargin, a new settlement of relocated Pushtuns in the large irrigation scheme of the Helmand River valley in South West Afghanistan; and Karokh, in the North Western Province of Herat, inhabited by Tajiks with a large sub-group of Sayeds who claim direct descent from the Prophet, located at an altitude of 5,400 feet at the spur of the Paropamisus Mountains.

The Investigations

Throughout the study a nucleus of standardized measurements including interviews, physical examinations, laboratory and skin tests was used, regardless of whether a particular disease was present in the community. This practice made it possible to determine the relative sensitivity and specificity of the epidemiologic tests in different settings. For important diseases with a restricted regional distributions (for example, onchocerciasis and chagas' disease) appropriate diagnostic tests were added to the standard study protocol of the country as indicated. The similarities and differences in the disease patterns found in the 13 villages of the three countries are depicted in the Table. Not included in the table are common diseases of usually short duration (for example, diarrhea, ARI, skin infections, and asymptomatic infectious states determined by serologic tests for a battery of arthropod-borne virus infections).

In each village a complete house-to-house census was carried out first. The average village census was 355 persons with 32 percent less than 10 years old. All houses and families were numbered and a village map was prepared on which each house was identified. The high rate of participation in the different test procedures in all villages was achieved by offering treatment to all persons in the samples who were sick (Photo 1). The average rates of participation were physician exam 95 percent, stool exam 88 percent, urine 92 percent, and blood 91 percent. To avoid bias from clandestine increases of the original family sizes by nonresidents who sought treatment by pretending a family relationship, free medical services also were offered to persons not included in the study population. The exact laboratory methods, physical examination protocols, health interviews, environmental measurements, and entomologic methods were described elsewhere.[1-3] In each village data for more than 150 variables per person were collected routinely by the physicians and

scientists who had no prior knowledge of the results of measurements carried out by other team members.

Modern Techniques

Many recent technical advances were utilized by the GEU to increase the efficiency of epidemiologic studies in remote areas, that is, major improvements in air transportation, camping equipment and facilities for work in remote areas; facilities and methods for the safe collection, preservation, and shipment of blood, serum and other sensitive biologic specimens, including liquid nitrogen freezers; microtests for rapid diagnosis under rugged field conditions; use of light-weight portable x-ray and ultrasound units; and the availability of computers for the processing and epidemiologic analysis of complex data collections (Photo 2).

Logistics

The usually difficult logistic problems were solved in a detailed pilot study carried out jointly by the epidemiologist, sanitary engineer, and anthropologist of the JHU team together with team members of each host country assigned by the Ministry of Health. Excellent cooperation with the local power structure was achieved after careful consideration of the cultural features and other local peculiarities of each community.

During the pilot studies the exact location of each camping area was chosen with help from the village council. The water supply of the 18-member field team was selected from a nearby river, stream, lake, or well. The water had to be transferred to a system of lyster bags for treatment. During the 18 months of field work no health problems were encountered due to unsafe water supply. The water system was developed by the sanitary engineer of the GEU.[4] Cultural taboos for collecting venous and finger blood samples, stool and urine specimens, for conducting physical examinations of women and children, and for carrying out health interviews were identified and overcome.

Contractual arrangements were made for in-country transport of the approximately 5,600 lbs of camping and research equipment by road, air, or river. The most reliable means of shipment for sensitive specimens, infective material (bacterial cultures, arthropods, human tissue, etc.), and exposed x-ray film from the field to Baltimore was determined by first sending dummy specimens using different routings. IATA regulations, licenses for transit and import of these specimens were obtained and, if necessary, modified for items not yet included in official regulation manuals. Similar preparations had to be made for the regular supplies of liquid nitrogen, corrosive and other dangerous materials, medications, and sensitive biological reagents. An unexpected difficulty was encountered regarding the supply of specific snake antivenoms for exposed team members and snake-bite victims in Chad where reliable data on the species and distribution of poisonous snakes were unavailable. The dearth of this information led us to include a special category for "poisonous animals" in the study protocol.

Accomplishments

The accomplishments of the GEU covered a wide range. First, there was the care and treatment provided by the medical members of the team for the length of their stay in a village. In all the communities visited the treatment of chronic disease (that is, tuberculosis, leprosy, trachoma, etc.) was also begun, provided that



Photo 1. The team did not merely measure disease - they treated all sick persons identified (JHU photo).

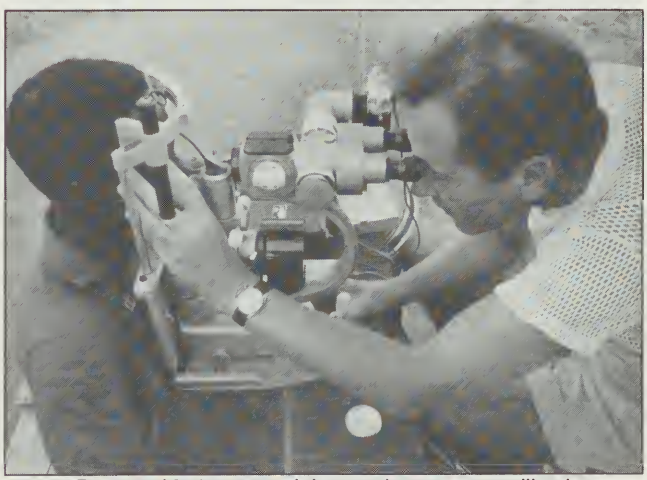


Photo 2. Modern examining equipment was utilized under primitive field conditions (JHU photo).

reliable arrangement for its continuation could be made with local officials. Sufficient supplies of drugs were either left with responsible villagers or sent via reliable routes of communications. The medical services provided by the team included medical emergencies caused by accidents, assistance in complicated deliveries, minor surgery, medical treatment, as well as referral and transport of severely ill patients to the distant hospital of the provinces and districts.

Second, new information was provided on existing community health problems that were unknown at that time to the Ministry of Health. This included findings of foci of endemic treponematoses pinta in Peru and endemic syphilis in Afghanistan, of serious trachoma in Chad and Afghanistan, of a high prevalence of toxoplasmosis in Peru, of severe hookworm anemia in a coca-growing area of the Montana of Peru, as well as outbreaks of acute diseases in villages of all three countries.

Third, was the comprehensive and detailed study report of diseases and health conditions in the different villages that were carefully selected by the health officials to represent significant ecological subdivisions of the country.



Photo 3. Coco chewer with limited life span due to chronic low-dose cocaine ingestion in Peru (JHU photo).

Fourth, new findings requiring follow-up study concerned quite different subjects. A new hemoglobin phenotype, consequently called Hemoglobin Tchad was identified in the women of an Anakaza family in the Sahara.[5] In the same country a new salmonella serotype was isolated from routinely grown cultures of slow and nonlactose fermenting enterobacteriae from rectal swabs of children, named *Salmonella baiboukoum*[6] after the seat of the subprefecture in which the infection was found.

In Afghanistan, using clues from the results of serum electrophoresis, biochemical follow-up studies led to the identification and characterization of two new serum albumin variants (Albumin Afghanistan and Albumin Pushtun) in ten members of four families of Pushtuns.[7] In this village there was also a high frequency of glucose-6-phosphate dehydrogenase deficiency (22.6 percent) in man, as compared to 4 to 5 percent found in the other Afghan villages.[3] Also in Afghanistan, 10 percent of the residents of the Moghul village of Bamyan (with a history of frequent intermarriages between relatives) had an anatomic variant of the limbal area of the eye in which the sharp transition of conjunctival to corneal epithelium was lacking. Many of the people with this pseudopannus previously were diagnosed as having trachoma. Another genetic abnormality was the presence of Hemoglobin Punjab in the Uzbek village of Bulla Quchi.[3]

The severe effect of heavy habitual coca leaf chewing on the health status of plantation workers was studied in the village of Cachicoto. In this part of the Peruvian jungle area, coca has been grown for decades (Photo 3). A study comparing the "coqueros" of Cachicoto with control subjects matched for age, sex, and ethnicity revealed severe anemia, with large and significant differences in hemoglobin and hematocrit levels when adjusted for intensity of the endemic hookworm infections.[8,9]

In Chad, the unexpected finding of microfilariae of *Onchocerca volvulus* in urine samples of a sizable proportion of villagers led to a clinical follow-up study of the pathogenesis of generalized onchocerciasis.[10,11] Subsequent studies of this unusual manifestation were carried out by members of the JHU team in Guatemala and Cameroon.[12-14]

The role of the frequently encountered anticomplementary activity of sera from tropical Africa was studied in relation to serum protein levels, anergy to skin tests and multiple infections.[15]

Because patent concomitant infections with different parasites were found frequently in most of the villages studied, follow-up investigations of the nature and health impact of polyparasitism were conducted.[16-19]

Ticks collected by the entomologist of the team in Chad and Afghanistan were made available to Dr. Harry Hoogstral for his collection and for identification.[2,3] Snakes collected by the team in Chad were

subsequently identified as the saharan sand viper, saw-scaled viper, night adder, and two nonpoisonous species. From discussions with scientists of the Laboratoire de Recherches Veterinaires de Farcha and the director of the Service Des Grandes Endemies in N'djamena we learned that three genera of poisonous snakes are present in Chad: *Bitis, Echis,* and *Naja*. In the Sahara oasis of Faya there where serious, sometimes fatal reactions after people were stung by scorpions of the species *Androctonus amoureuxi*. Attempts are under way by the Institute Pasteur to develop specific antivenoms.

During our studies in Afghanistan it became apparent from the examination of blood slides and the age-specific patterns of malaria antibodies that the malaria eradication program of the country was failing in an area south of the Amu Darya (Oxus) River. Indeed, one year later, there was a serious epidemic of *Plasmodium vivax* malaria. Members of the GEU accompanied by Dr. Ronald Ward of the Walter Reed Army Institute of Research were invited to investigate the outbreak.[3]

New Wines from Old Bottles

The original study protocols included provisions for the storage of aliquots of serum specimens from the field at -85° F. This material made it possible to study the relative association between specific infections and health conditions identified in the studies of Chadian villages and the occurrence of false biological reactions in the screening tests for HIV infections. The Figure shows the frequency distribution of optical density readings in the combined Elisa test for HIV 1 and 2[20] as applied to preserved sera of three Chadian villages. Further studies are under way.

Conclusions

In the developing countries of the tropics, concomitant infections are the rule rather than the exception. In medically underserved areas, when it is impossible to identify the causes of diseases through appropriate clinical and laboratory examinations, the etiologically unlabeled illness goes unreported and is left in the cesspool of diagnostic anonymity. This lack of information is particularly marked for chronic infections and conditions with insidious onset and obscure pathognomonic signs and symptoms even after they become clinically apparent and cause chronic disability.

One observation in the study of the rural communities by the GEU was the high frequency of chronic disability in younger age-groups.[21] In some of our villages the rates among teenagers and young adults were three times higher than those found in comparative age groups of Americans.[22] The etiology of the often preventable conditions is usually obscured by a combination of secondary causes and complications such as malnutrition, accidents, and genetic malformations.

Figure. Percent Distribution of Elisa Results

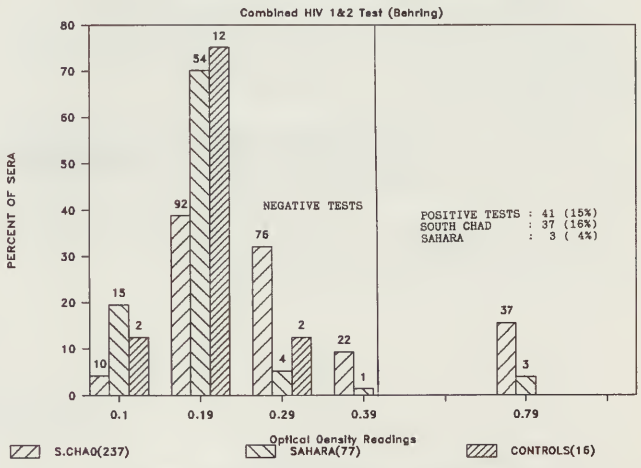


Figure. Percent Distribution of Elisa Results

A few well-planned in-depth studies of health and disease in ecologically and culturally significant subdivisions of a country, supplemented for population coverage by rapid epidemiologic assessments of selected health problems in more communities may be the method of choice to gather the essential data needed to develop a sound health strategy for disease control in medically unexplored areas.

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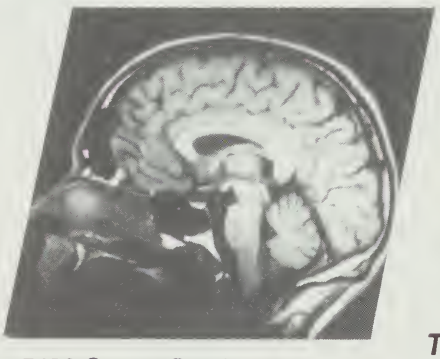
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Health Care of Merchant Seamen

John B. MacGibbon MD

Dr. MacGibbon is an Instructor in Medicine, The Johns Hopkins Medical School. He also is affiliated with Union Memorial and Church Hospital.

The Port of Baltimore has almost 3,000 ship arrivals every year from over 50 countries. Almost 70,000 merchant seamen from throughout the world enter the port.

To what diseases are seamen liable? In 1713 Bernardo Ramazzini wrote in his *De Morbis Artificum* (Diseases of Workers)

> Of all the arts that contribute greatly to the happiness of mankind ... navigation contributes most...the good things Nature has made peculiar to this or that country navigation has made common to all.... Let us now consider...to what maladies sailors are liable.... It often happens that ships are attacked by some epidemical disease which...may arise from the presence on board of a great crowd of seafarers of various and diverse sorts...the seed of contagion spreads aboard, and the rest fall victim to the same disease. In such a case there is no escape, for they are all in the same boat as the saying is.... They suffer from irritating infections of all over the body caused by impurities that collect in the skin and the quarters in which they live give them no chance to attend to personal cleanliness... and for this reason they are beset by a monstrous host of lice.[1]

In the hot, dry August of 1819, bonfires lit the smoky night skies in an attempt to purify the air of the Port of Baltimore's Fells Point area of the yellow fever plague. There were 640 cases with 240 deaths reported to the local health authority.[2]

Since those days the Port of Baltimore has extended from Fells Point to include Sparrows Point, Dundalk, the Inner Harbor, Clinton Street, Canton, Port Covington, Locust Point,Fairfield, Wagner's Point, Curtis Bay (Coast Guard Station), and Hawkins Point (the old quarantine station area). It is to this vast waterfront that seamen from all over the globe arrive and spread out into the neighborhoods and the city in search of recreation and business. It is to this city that they could bring contagion and sometimes take away locally acquired diseases.

Historical Data on Seamen's Problems

A few statistics and vignettes of the situation earlier in this century can be gathered from the British Board of Trade publications and other sources.

British Mercantile Marine Mortality in 1926 was 889 out of a total of 159,950 seafarers (a very high death rate for men in the younger and middle years of life). All diseases accounted for 410

deaths. For death with known cause: enteritis 28, smallpox 7, malaria 13, TB in all forms 41, pneumonia 63, cardiovascular disease 56, suicides 30, alcohol-related deaths 31, other 141. Injuries accounted for more than half of all deaths (448).

In 1931, 133 cases of malaria were landed in the UK vessels; and 432 cases occurred during the voyages. In 1930 on one ship there were 12 cases of malaria and one death on the homeward voyage. In 1931, 33 cases of smallpox were reported prior to arrival.

In 1926 the League of Nations reported that tuberculosis was responsible for 9.1 percent of all causes of sickness in French seamen, 16 percent in Italian seamen, and 10.1 percent in German seamen. J.E. Wood stated that deaths among seamen from respiratory tuberculosis comprised 9.5 percent of all deaths. Of deaths within a year of leaving the sea 20 percent were due to tuberculosis.[3]

Yellow fever was also a problem. In September 1936 the *S.S. Sea Rambler* arrived in the River Tyne having left Dakar in West Africa in August. Of the original crew of 24, 7 were dead and 5 were left in hospital in Madiera. Despite illness, two stayed on duty. These men were diagnosed as having food poisoning in Funchal but were later discovered to have yellow fever. The ship was fumigated on arrival in the River Tyne. No mosquitoes were found.

The Population Served

In 1988 the Baltimore Maritime Exchange reported 2,761 ship arrivals. There were 610 bulk ships, 410 container ships, 439 general cargo ships, 22 chemical tankers, 7 cement carriers, and 39 refrigerated cargo ships. Over 50 nations were represented. Over 100 ships under each of the flags of the following countries arrived: America, Denmark, Greece, Panama, United Kingdom, and West Germany. The average crew numbers 25, thus almost 70,000 seamen arrive in the Port.

The captain notifies the agent when there are sick on board. Arrangements are made to bring patients (we hope with an interpreter) to the hospital, doctor, or dentist. Occasionally it is necessary for the doctor to board the ship at the dockside, or in the stream by launch or helicopter, to screen for those who need to come ashore for treatment. Previously seamen were taken to the United States Public Health Hospital for communicable disease and were denied shore leave. Now with the abolition of crew inspection such cases are treated by local facilities.

Quarantine in the Port of Baltimore

Gone are the days when the Quarantine Station sent officers to board each foreign arrival to inspect the crews for contagious diseases. Because of the number of arrivals, improved communications, and improved sanitation on board ships this practice was replaced by a "free pratique" obtained by the master by radio. He made a declaration of his recent itinerary and reported any fevers, illnesses, or deaths occurring during the 15 days preceding arrival, including any seamen who had disembarked or been removed. Cases of diarrhea on ships carrying passengers must be reported directly by radio to the quarantine station. Health Declarations are no longer required. Now the captain must report any death or "ill person" on board while the ship is in a US port. (An ill person means one who has a temperature of 38° C or greater accompanied by a rash, glandular swelling, or jaundice, or which has persisted for more than 48 hours or has diarrhea of 3 of more loose stools.) Some illnesses under Quarantine Regulations may go unreported, however.

Medical Care for Seamen in Baltimore

Foreign seamen in Baltimore are taken care of by private physicians or clinics. Some physicians are appointed by the public health authority or Seamen's Directorate of the nation under whose flag the ship sails. Other arrangements are made through the owners and their local agents or through the local legal representative of the international health accident insurance groups or clubs. In countries with socialized or partly socialized medical programs for workers such as in Italy, Britain, and Scandinavia, medical payments are handled through insurance agencies and the national health insurance plans.

Billing for Medical Services for foreign seamen is a tortuous procedure. Bills are sent to the local agent for the shipping company who is not responsible for the payment but forwards the bills to the owners overseas. In turn, they submit bills to their insurance agent for payment to the owner who (it is hoped) remits it to the local Baltimore agent who finally reimburses the provider. The local agent may be supplied with cash advances to take care of port expenses, but this cash advance almost never is sufficient to cover hospitalization. Because of the high cost of medical care in the US, a great effort is made to avoid hospitalization by repatriating persons by air to their home country for care. While air evacuation to Europe may be acceptable, it is less so when repatriation is to be made to a third-world nation. Often the compensation for permanent total or partial disability for third-world seamen is inadequate.

Changing Factors Influencing Seamen's Health

The health of seamen has greatly improved due to (1) better conditions of employment and (2) employment screening, especially for European ships.

Conditions of employment of seamen have improved greatly in the past 50 years. The days of shanghaiing drunks in port neighborhoods, such as Fells Point, and putting them aboard ship have long gone. Now the conditions of employment are dictated by agreements between ship owners and unions. The qualifications for sea service are laid down by regulation in many countries. These standards, especially on

Scandinavian ships, are regularly updated by government agencies. However, for "flags of convenience" of third-world countries there may be few safeguards and crews' conditions of service and wages are often less satisfactory. Costs of medical care in a foreign port may not be covered if the illness results from a seaman's misconduct, as in contracting venereal disease.

Standards vary widely for preemployment examination. Employment agencies in less-developed countries may require only the sketchiest of examinations and are open to bribes from applicants, who may even send a substitute for the examination. Many large multinational corporations owning ships under flags of convenience also have strict standards for employment. Many companies require chest x-rays, stool and blood examinations, and in the Middle East applicants often are screened for bilharzia urinary infections. Drug screening is routine only on US ships.

The health of seaman is usually quite good, with the exception of poorly screened crews coming from countries where the general standard of health is low. However, even healthy populations have illnesses as may be seen in the following section on one practice in Baltimore that serves merchant seamen.

Analysis of a Practice Serving Seamen in Baltimore

In a local practice, in 1,000 consecutive visits in the past year (1988) the breakdown of primary symptomatology or the principal diagnostic category precipitating the visit is as follows:

	Percent
Injuries	12.0 [a]
Respiratory	5.9
Cardiovascular	4.5 [b]
Gastrointestinal (incl parasites)	14.0 [c]
Genitourinary	3.0
Sexually transmitted diseases	7.0
Musculoskeletal complaints	12.5
Endocrine	3.0
Nervous system (incl Psychiatric and alcoholism)	5.5
Eye complaints	7.6
ENT complaints	7.9
Dermatological	16.0
Other conditions (incl malaria)	1.1

a. Half were wrist or hand injuries
b. 80% were for hypertension
c. 27% were due to peptic ulcer disease diagnosed here or formerly by x-ray

Conditions of Particular Interest

Injuries There are dangers from the holds and cargoes. Diminution of oxygen may occur from absorption or by increase in carbon dioxide from growing substances.There may be qualitative changes due to fumes from cargoes of petroleum products, asphalt and other chemicals, from the combustion and decombustion of such cargoes as grains, coal, undressed skins, latex, etc. *W.F.R.Essed* reported a case of suffocation in a ship's hold from moldy latex producing excessive build-up of carbon dioxide and diminishing the oxygen supply. Special care is needed in ventilating cargoes with plant consignments such as grains and fodder and cargoes of damp coal and coke. Ventilation is needed for motors, furnaces, and welding activities in enclosed spaces.

There is constant source of injury from the machinery, ship's gear, and engines. With deck crews the most common hazard is falling (down hatches, off beams, down ladders) due to the motion of the ship. Other common injuries are from moving machinery, tackle, cargo swinging at the end of a derrick, and from objects falling from above.

Respiratory Bronchitis, asthma are much as ashore. Seamen are often very heavy smokers due to the tax free status of cigarettes, the long hours of boredom and the promotion on board by the tobacco companies.

Gastrointestinal In 30 years only a rare outbreak of epidemic diarrheal illness has been encountered. One episode of ciguatera poisoning involved the crew of the *M.S. Charon* with the exception of the radio officer. The captain had caught some amberjack. They were cleaned, gutted, put in the reefer, then cooked and eaten by everyone except the radio officer. A few hours later all the others came down with varying degrees of nausea, vomiting, abdominal pain, diarrhea, and later with neurological complaints of pains in the limbs, dysthesias, numbness of the lips and tongue, and altered temperature sensation. By the time the ship reached Baltimore most of the gastrointestinal symptoms had subsided but some of the neurological symptoms remained. More than a month later crew members still reported neurological symptoms aggravated by the ingestion of alcohol.

Ciguatoxin is a heat stable toxin occuring in fresh otherwise untainted fish resulting from the consumption by the fish of a dinoflagellate organism. It is the most commonly reported fish poisoning throughout the world.[4]

Parasitic disease is not uncommon in seamen from tropical countries. One patient from India was admitted to a Baltimore hospital because of subacute obstruction and a mass in the left lower quadrant. He was scheduled for bowel surgery on the assumption that he had an obstructing carcinoma. The surgery was averted with the finding of amoebae in the colonic biopsy specimen. There was resolution of the amoeboma with treatment. Amoebic liver abscesses have occasionally been seen and treated. Frequent parasites recovered have been ascaris, strongyloides, oxyuris, trichuris, hookworm, giardia, clonorchis sinensis, amoebae, and tape worms.

Most of the stools were examined because of gastrointestinal complaints or the findings of an eosinophilia. Because of the short time the ships now remain in port, a few hours instead of days, routine stool examination is not practical.

Genitourinary The most common serious genitourinary complaint in the engine room crew is renal colic

due to calculus possibly caused by inadequate hydration and the high ambient temperature in the engine room, which may reach 40-45°C.

Sexually transmitted disease The spectrum of disease has changed markedly. Twenty years ago one would see five to eight crew members from one ship with acute gonorrheal symptoms, often souvenirs from Caribbean and South American ports. Now with national health authorities and some companies having protocols of treatment that can be carried out on board, there are less. Much of the lessened incidence is due to better education, less time in port, shorter contracts enabling crew members to return home to their families after four to six months instead of two years. There has been an increase in the number of married crew members and crew members who are relatively affluent. Many send money home to support extended families. This seems to have added to the increase in social stability of seamen. The fear of AIDS has contributed to the greater use of condoms. AIDS testing in Baltimore poses problems due to the short time in port and required informed consent from persons who understand very little English.

Nervous system including psychiatric and alcoholism Drug addiction and drug taking has in my opinion been little or no problem with the foreign seamen arriving in the port of Baltimore. Alcoholism seems less of a problem than it used to be for reasons stated earlier: a more socially stable population, more home ties, shorter contracts, better wages and working conditions, and better preemployment screening.

Emotional factors are of great importance. Difficulty in interpersonal relationships in the constricted environment of the ship can assume serious proportions and often the only way to escape them is to visit the doctor in the hope of being taken off the ship and flown home unfit for sea duty. In the case of problems at home this device may be used to obtain free repatriation. This practice may be aided by the captain and leads to either spurious or exaggerated symptoms being presented to the doctor.

Eye complaints The chief eye complaints are those resulting from corneal foreign bodies while chipping rust and paint. Lack of or not using eye protection is the major cause of this this.

Dermatological This comprises the largest group of complaints. Many are superficial fungus infections with tinea versicolor being the most frequent. Acne and furunculosis and hidradenitis suppurativa are common bacterial infections. Miliaria and other heat-related conditions are common. Frostbite is occasionally seen in the winter months. Solar skin changes are seen in North European patients. In the steward's department and among laundrymen and engine room workers contact dermatitis is quite frequent and at times severe enough to need repatriation or change of job.

Leprosy was seen on an Indian ship. The diagnosis was made by fellow crew members. The patient was hospitalized here at Wyman Park.

Other conditions, including malaria Malaria has been encountered quite frequently. Often it has been treated on board with cloroquin by officers who recognize the symptoms. Acute episodes of nonfalciparum malaria can be safely treated on board this way. Nonimmune crew members who either have not taken prophylaxis correctly and have contracted a resistant or nonresistant strain of *P. falciparum* are in grave danger. Deterioration can occur very rapidly, and death may ensue. Hospitalization is needed and appropriate treatment must be initiated promptly. Treatment in the intensive care unit is needed if complications arise. In circumstances where the laboratory is unfamiliar with the interpretation of thick and thin smears, empiric treatment should be started if suspicion is high, even if the initial smears appear negative. I have had wonderful help and cooperation from the staff at the Maryland State Health Department Laboratories in the rapid screening, identification, and confirmation of malarial smears.

In the United Kingdom, where about 400 to 700 cases of P. falciparum malaria are diagnosed yearly, from 1983 to 1988 from 4 to 8 deaths occured yearly.

Treatment at Sea

Medical help at sea by radio communication in the native language is available from appointed hospitals in the ship's home country They are familiar with the equipment carried, the contents of the medicine chests, and the contents of the ship's medical manuals issued to help the officer in charge of first aid to the crew.

Ships under flags of convenience may have to call a nearby coast guard or a passenger ship for help unless they have subscribed to one of the systems that provide comprehensive medical services to people in remote places. Such a system is Medical Advisory Systems (MAS) that has its headquarters in Owings, Maryland.

MAS provides 24-hour consultative services by radio, telex, or telephone by experienced physicians whose comunication is facilitated by the use of detailed protocol manuals. Training of designated personel to deliver reasonable on-site care to ill or injured coworkers and to keep extensive computerized medical histories of each participating employee also is provided. MAS directs a network of facilities around the world to provide specialized physical examinations and to monitor the appropriateness and cost effectiveness of hospital and private physician care. They also insure, through a maritime insurance company, qualified employee and dependent groups against illness, disability, and death. Through a subsidiary laboratory company they will provide customers with repackaged medications and supplies and provide forecasting and inventory data.

Need for Social Support for Seamen in Baltimore

All the foregoing attends to the physical care of the seaman in port. There is great need for a seamen's center (such as there is in Rotterdam) where crew

members can meet, send letters, make telephone calls, and arrange trips and sporting events. The Scandinavians formerly had seamen's centers in Baltimore. The Norwegians still have such a service run by a local representative of the Seamen's Church.

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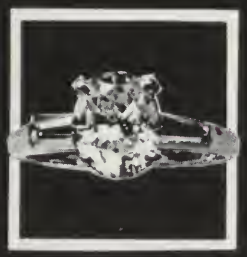
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Maryland's Travelers' Clinics

R.B. Sack MD, D. Herrington MD, and T. Baker MD

Dr. Sack is Director of Geographic Medicine and professor in International Health at the Johns Hopkins School of Hygiene and Pubiic Health. Dr. Herrington is assistant professor of medicine at the University of Maryland School of Medicine. Dr. Baker a professor at The Johns Hopkins School of Hygiene and Public Health.

Almost half a million Marylanders travel outside the United States every year[1] and are subjected to disease and injury hazards not generally encountered in this country.

Approximately 5,000 Americans die overseas every year, and many more are injured or fall ill. It is not generally recognized that injuries are the leading cause of lost years of productive life of Americans overseas.[2,3] How can Maryland physicians best advise their patients planning to travel, particularly to the less-developed countries of the world, if they are not familiar with the conditions their patients may encounter?

The need for medical care for foreign travelers has led to the development of the specialty of Travel Medicine (emporiatrics) with national and international associations and journals. In Maryland the needs of travelers led to the establishment of five special travelers' clinics designed to advise travelers about the needed immunizations, prophylactic medications, and preventive practices to help insure their travels are disease and injury free. The clinics known to us are the International Travel Clinic at Johns Hopkins, The University of Maryland Geographic Medicine Travelers' Health Service, the Mercy Medical Center International Travelers' Service, the Wyman Park Travelers' Clinic, and the Harbor Health System Clinic.

International Travel Clinic at Johns Hopkins, 550 North Broadway, Room 107, Baltimore: 8 a.m. - 5 p.m., Tuesday, Wednesday, Friday. Appointments can be made Monday - Friday by calling 301-955-8931. Parking available.

One of the largest travelers' clinics in Baltimore, the Hopkins Clinic has a complete range of services specializing in preventing diseases that commonly (and uncommonly) plague travelers to the developing world. The clinic was begun by physicians and nurses at Hopkins who continue to have personal experience living and working extensively with the diseases in less-developed countries.

The clinic provides individualized pretrip consultations, including current health information and advice, immunizations, and medications appropriate to the area to be visited. Posttrip consult-

ations are available for persons who develop illnesses during and following their travel. The clinic staff can serve as medical consultants for businesses, diplomatic organizations, and others engaged in extensive travel abroad.

The clinic offers a selection of vaccines not commonly found in most physicians' offices: vaccines against yellow fever, diphtheria, tetanus, polio, typhoid, cholera, meningococcal meningitis, rabies, hepatitis B, and immune globulin for the prevention of hepatitis A. For those traveling to areas where malaria is a risk, appropriate antimalarial medications are prescribed. Medications for the prevention and/or treatment of diarrheal diseases (including the dispensing of packets of oral rehydration salts) are recommended.

The Clinic is continually updated on disease problems occurring throughout the world and on vaccine requirements through the Centers for Disease Control, Atlanta; the World Health Organization, Geneva; and from their own personal contacts.

Clinic fees vary, based on the number of vaccinations needed and consultation time required. Most insurance companies **do not** cover these expenses.

The University of Maryland Travelers' Health Service, Faculty Practice Offices in the University of Maryland Professional Building at the corner of Paca and Redwood Streets in downtown Baltimore. To schedule appointments, call from 8 a.m. - 5 p.m. Monday - Friday 301-328-5196. For emergencies, nights, and weekends dial the on-call answering service, 301-328-5717. Free parking: University Plaza Garage, Redwood and Greene Streets.

This service provides comprehensive health care for travelers in tropical and subtropical countries. The Geographic Medicine faculty are internists and pediatricians with special training and experience in tropical medicine. Each is a highly knowledgeable clinician engaged in research to improve health conditions for international travelers.

Pretravel Recommendations: immunizations: yellow fever, cholera, typhoid, meningococcal meningitis, Hepatitis B, rabies, tetanus, diphtheria, and polio vaccines and immune globulin

- prevention and treatment of diarrhea
- prevention of malaria, including necessary drugs
- education about other disease risks and where to obtain medical advice while traveling

After-travel Health Care:

- evaluation of fever, diarrhea, or other acquired illness
- routine checkups, including examination for parasites

International Traveler's Service at Mercy Medical Center, 301 St. Paul Place, Baltimore. For further information call 301-332-9770. The Center publishes a quarterly guide for travelers, *Mercy Passport*.

Wyman Park Travelers' Clinic, 3100 Wyman Park Drive, Baltimore: 1 - 4 p.m., Tuesday. Call for appointments 301-338-3376. The clinic is at the site of the USPHS Hospital.

CMC, Inc., 16 South Eutaw Street, Baltimore. This clinic, a subsidiary of the Harbor Health System Corp., offers immunizations including yellow fever shots. For further information call 301-752-3010.

There are travelers' clinics in the Washington, DC area, such as the clinics run by Dr. Martin Wolf, former Director of the State Department Medical Program.

If there are other travelers' clinics in Maryland the authors would be pleased to learn about them.

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American Practitioners and the Global Primary Care Movement

Henry G. Taylor MD and Carl E. Taylor MD, DrPH

Dr. Henry G. Taylor is an internist with the Pendleton (County, West Virginia) Community Care. Dr. Carl E. Taylor is Professor and Chairman Emeritus of International Health, Johns Hopkins University. He is also a Past Director of UNICEF for China and father of Henry G. Taylor.

Experimental Community-Oriented Primary Care (COPC) demonstrations are beginning to show how innovative concepts from around the world can help evolve a distinctly American health system adapted to the particular needs of each community.

In the past decade the worldwide primary health-care movement has drastically changed the way that most poor countries of the world are trying to organize their health services. US physicians have paid little attention to the health-care innovations that have occurred in other countries. An awareness of international experiences may help American practitioners and others involved in the United States' health system as they try to meet current challenges such as providing equitable coverage within the constraints of the growing need for cost containment. New experimental Community Oriented Primary Care demonstrations in the US[1] are beginning to show how innovative concepts from around the world can help evolve a distinctly American health system adapted to the particular needs of each community.

In the US, primary (or first contact) care gradually evolved over many years into what was mainly a screening process designed to get sick patients to hospitals where they would get definitive but extremely expensive care. Those providing primary care may have had a different perception of their role, but the priorities of financing of health care were clearly on hospitals. As one general practitioner says, American medicine today is characterized by "spending beyond our means."

The international primary health care movement is based on the premise that health care can and must be made more cost-effective by concentrating first on procedures that are applied in the home, the community, and the peripheral (primary) health facility. Early care and changes in health habits have the potential to produce lasting benefits. They increase both the individual's self-reliance and the community's competence for solving their own health problems.

If health promotion and primary care are given priority, hospitals can assume a supportive role, caring only for those patients really requiring referral. Biomedical research has led to costly and technologically sophisticated experts who perform complex procedures. Insurance plans have financed this trend. We need more

research directed at simplifying care, reducing costs, and increasing access.

Evolution of the International Primary Health-Care Movement

The first use of the term "primary care" we can find in the literature is in an *Interim Report on the Future Provision of Medical and Allied Services* by Lord Dawson of Penn to His Majesty's Government in 1920.[2]

In the early 1930s, Dr. John Grant and Dr. C. C. Chen of the Peking Union Medical College applied Lord Dawson of Penn's concepts to a field situation. They organized a total preventive and curative health care program for the 100,000 people in TingHsien County, China, at a cost of ten cents per person per year (1930 US exchange rates).[3] In each village, young men and women were trained as community health workers and midwives to provide simple care to their neighbors. This demonstration was expanded by Mao Tse Tung into the barefoot doctor movement that brought effective health care to almost one quarter of the world's population.

In 1980, the health status of Washington County, Maryland, and a rural county outside Shanghai were compared by the Johns Hopkins Department of International Health, the US Center for Disease Control, and the Shanghai First School of Public Health.[4] Morbidity patterns, mortality rates, and other health indices were essentially the same. The one dramatic difference was in cost. Average per capita cost for total health care was over $1,400 per year in Washington County and about $15 per year in Shanghai County. (The average income level in Washington County was less than 30 times that of Shanghai County; the medical costs were almost 100 times as great!) The main reason was the difference between income levels of American specialists and Chinese barefoot doctors. It is chastening to realize that the Chinese were able to achieve essentially equivalent health status with so little that we consider essential.

John Grant's primary care principles were applied to rural villages in India over a ten year period by the Johns Hopkins Department of International Health.[5] Using well-trained Family Health Workers and modern clinical protocols, it was possible to provide comprehensive child care for less than $5 per person per year. Groups of villages in the experiment reduced perinatal, infant, and childhood mortality rates 45 percent when compared over a three-year period with controls. Average weight of three-year-old children increased by one pound, and height increased by two centimeters. Psychomotor tests improved significantly and the practice of family planning tripled. Many other projects around the world have demonstrated similar results.[6]

The global primary health care movement officially began in 1978 at the Alma Ata World Conference on Primary Health Care sponsored by the World Health Organization and UNICEF.[7] Most countries have moved toward increasingly specialized and expensive institutions that are available mainly to the elite. In developing countries the sharp differences between those who can and cannot afford modern health care were so evident that efforts to promote equity through primary care became politically important. Leaders found they had to act to meet the expectations they had created for free health care. Leading health officials from more than 140 countries made national commitments to turn their health systems around, shifting the focus from tertiary to primary care. Following through with these commitments takes a long time, but there has been a corresponding shift in the health budgets of many countries. At the World Health Assembly, countries brag less about hospital beds and medical schools and more about primary health centers and village health workers.

The three pillars of primary health care defined at Alma Ata are:

1. Developing **effective peripheral (primary) health services** using methods, staffing patterns and financing acceptable and affordable at the local level.
2. **Community participation** that increases the capacity of people to solve many of their own health problems.
3. **Intersectoral cooperation** recognizing and promoting contributions from education, women's rights, transportation, and other development activities.

The first euphoria for primary health care faded in the 1980s when it proved difficult on a national scale to replicate the rapid results of demonstration projects. Attention temporarily shifted away from building basic health infrastructures to first developing and delivering specific targeted services, especially EPI (Expanded Program for Immunization) and ORT (Oral Rehydration Therapy). It is estimated by WHO that the deaths of over two million children are being averted by EPI and ORT, out of the 14 million preventable deaths annually of children in developing countries.

The intent was that these special activities should eventually become part of primary health care. Subsequent research has shown that they indeed are most successful when there is an established health infrastructure. WHO efforts are being directed at establishing a more effective system of primary care in all countries; thus the current WHO slogan "Health for All by the Year 2000."

COPC in the US

Efforts to apply the principles of John Grant and Primary Health Care in the US context have centered since 1982 on the concept of Community Oriented Primary Care, as articulated by Kark & Abramson and others.[1,3,8-10] The COPC process aims to move beyond the individual patient to their sociodemographic social

group or a larger geographic community. The COPC process mimics clinical care, but on a larger scale. There are:

1. a defined population	(the patient)
2. a health system	(the practitioner)
3. community perceived needs	(the chief complaint)
4. epidemiologic diagnosis	(the history & physical)
5. interventions	(the treatment plan)
6. monitoring efforts	(diagnostic testing)
7. modification of 1 - 5	(follow-up visits)

Pendleton Community Care (PCC) is applying the principles of COPC to a sparsely populated, rural mountainous county in eastern West Virginia. Developed with minimal outside support, it is controlled by a community board elected by a local membership. Pendleton Community Care combines an acute care clinic, a prepaid membership program, and diverse projects responding to expressed needs of the communities it serves.

The four health providers (internist, pediatrician and two family nurse practitioners) are each involved in all three program areas. Eighty-five percent of their time goes into the 9,000 acute care visits, which are paid on a fee-for-service basis. Membership programs, supported by an annual membership fee of $10 per person per year, emphasize health education and preventive care for 17 percent of county households. Community projects include a Drug Free Communities Program, a teenage pregnancy reduction program, support services for caregivers to the elderly, facilitating community response to a disastrous flood, a car seat rental program, and an ongoing community diagnosis and monitoring program.

In organizing Pendleton Community Care, the health professionals stated their interest in the "denominator population" of 8,000 Pendleton County residents. Individual patients had free choice to use services or see other physicians in the area. Making a commitment to learn about the special qualities and concerns of a defined group of people fundamentally changes the orientation of health professionals. New areas of expertise develop, clinical reading has relevance for community problems, and providers become aware of social and cultural factors affecting health. It also becomes possible to work through the social dynamics to change root causes of ill health. Furthermore, those in greatest need may not be the ones who come into the office. We may need to reach out to them in special ways.

Health professionals need to listen carefully to the community. This takes concentrated time and effort. Initially, it occurred through informal socializing. Now more direct methods such as surveys, epidemiologic analysis, and focus group interviews are being used.

Defining and mutually prioritizing the health problems of the county blends epidemiologic techniques with community participation. Billing slips from the clinic combine demographic data, diagnostic information, and financial information, helping to reflect morbidity patterns. Systematic monitoring of a successful program of care to the elderly, for example, will improve program effectiveness by allowing us to concentrate on what has worked best in our own situation.

Feedback of relevant findings from the entire COPC process produces a dynamic process of change. This parallels a rural community itself in transition.

Why US Practitioners Should Consider the COPC Approach

Physicians are involving a more assertive public in their practices. The general cultural trend toward individual rights and self-determination is amplified by lawsuits regarding informed consent. Instead of the confrontation feared by all, the search for solutions should be based on cooperation, especially in each community. This is not only good "risk management" but also "social marketing."[11]

Corporate conglomerates have become a major force in the health care marketplace, with personal care tending to get lost in the process.[12] We are being told to deliver the most effective care to the most people at the least cost. How can we do that while still maintaining loyalty to the individual patient?[13] Many US primary care physicians believe they could serve their patients better if they only had one government bureaucracy to deal with rather than four or five corporate bureaucracies.[14] We do not need more evidence that health care does not respond to the usual market mechanisms.

To sustain the gains in life expectancy achieved over the last 50 years, major changes in health behavior will be required. Changes in individual perceptions, beliefs, and risk behaviors are sustained by social and community support mechanisms.[15-18] The national coordination of the Hypertension and Cholesterol programs provides a good example of these theories in action. Health providers can help best with lifestyle change when they combine education with primary care.[19,20] In a sense, this is the ultimate privitization of public health.

A focus on a particular "target" population in the community can energize the tired clinician to escape the narrow confines of the office walls. Much of the public fondness for the "good old country doctor" lies in their recollection of a relationship that transcended technicalities. Through COPC various institutional structures (ranging from advisory committees, governing boards, memberships, or even community service projects by the doctor) can reestablish that collaborative relationship. We all need the give and take of personal contact embodied in Dr. Peabody's famous words, "the secret of the care of the patient is in caring for the patient."[21]

Summary

In conclusion, comparative studies of primary health care in various parts of the world can lead to new

solutions for underserved communities in Maryland and other parts of the US. Careful review of how similar principles work under different circumstances will open new approaches. Current international experience shows that each country must evolve its own health care system. We have much to learn from those who are poorer than we, where limited resources stimulate local innovation and less waste.

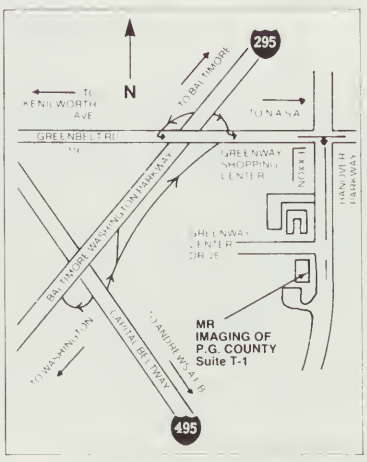
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Quality Assurance and the Treatment of Hypertension

Marcel E. Salive MD, MPH

Quality assurance has been applied to inpatient services for over 15 years, yet only recently have these review activities begun to be extended to an ambulatory setting. In the near future, peer review organizations (PROs) and private firms will begin to review the quality of outpatient surgery and office-based medical care provided to Medicare beneficiaries. The many differences between inpatient and outpatient quality assurance make it difficult to predict the impact of these developments.[1] The prevalence of hypertension has made it a natural subject for many of the early research reports on ambulatory quality assurance. We review these reports as a basis for predicting the changes in patient care that may result from the new PRO involvement in outpatient care.

Quality and Quality Assurance

Donabedian developed a widely accepted system for assessing the quality of care based on the measurement of structure, process, and outcome of care.[2] Quality assurance extends the measurement of quality by acting to correct any adverse findings. Structural evaluation of medical care quality, which deals with provider qualifications, administrative organization, and facilities, is exemplified by Flexner's evaluation of medical schools and subsequent activities of the Joint Commission on Accreditation of Hospitals in certifying hospitals.

The process of care, which refers to the way care is delivered to patients, is generally compared to the standards as developed by experts or local physician peers. Process evaluation developed and has flourished in response to legislative initiatives related to the Medicare and Medicaid programs. The organizations that conduct process evaluations have been known over the years as Experimental Medical Care Review Organizations (EMCROs), Professional Standards Review Organizations (PSROs), and PROs.[3]

While the EMCROs were research-oriented, PSROs and PROs main goals were to save money by decreasing inappropriate or unnecessary hospital-based care. Although the criteria the PROs use were developed carefully, some of the parameters or indicators of quality made little sense to clinicians and have been called "laundry lists." One criticism of process criteria is that they may increase care delivery costs but do not affect the health outcome.[4] Differences in physician practice by specialty, among patient populations, and among regions have worked to thwart attempts to develop a valid and generalizable set of rules for patient management. Nevertheless, the American Medical Association together with the Rand Corporation recently have announced plans to develop "practice parameters."

Although outcome-based measures of quality of care have been developed in terms of mortality, morbidity, and quality of life, few are available for use in ambulatory settings. Outcome standards make intuitive sense as desired end results of care, but they may be limited by an imprecise relationship to care delivered.

Brook *et al*[5] reviewed outcome standards in 1977 and developed models for eight conditions, which have remained unused since their development. The recent release of hospital-level mortality data for Medicare patients by the Health Care Financing Administration has spurred more outcome-based quality assurance. A modification of the "sentinel event"[6] method that flags clearly adverse outcomes for further review has been developed for in-hospital deaths.[7]

Process-based Quality Assurance for Hypertension

The process of medical care includes physician actions (diagnostic and therapeutic) as well as patient compliance. An early example of process criteria for hypertension was developed by the Albermarle County (Virginia) Medical Society EMCRO.[8] The group used an epidemiologic approach to set standards for primary prevention, case-finding, diagnostic workup, therapy, and follow-up. Subsequently, periodic reports from the Joint National Committee of Detection, Evaluation, and Treatment of High Blood Pressure (most recently 1988[9]) have served to set process criteria that have been adopted in a number of quality assurance studies.[10-11]

Brook and Appel[4] distinguished between *implicit* (global judgment) and *explicit* (list-based) process criteria. Of 114 hypertensive patients treated at Baltimore City Hospital, 27.2 percent were believed to have had adequate medical care (implicit) process by two of three judges; less than 2 percent met all the explicit criteria. The study investigated only quality assessment; it did not evaluate the effect of an intervention on patient care.

A computerized medical record system (COSTAR) has been used to improve medical follow-up among hypertensives at the Harvard Community Health Plan.[12] A related system was developed in Canada to encourage patients to have their blood pressure screened periodically.[13] COSTAR facilitated the evaluation of an institutional quality assurance program that used feedback about individual patients and compared physicians with their peers.[10] The two sets of process criteria studied (initial laboratory testing and follow-up within six months) were unchanged by the intervention, although small improvements were

noted for the subgroup of moderate to severe hypertensives. Blood pressure control, an outcome measure, showed similar disappointing results.

More recent work has compared the use of written cases and chart audits for evaluating physician practice patterns.[11] The 98 family practice residents studied ordered fewer tests in clinical practice compared with the written cases, probably due to cost constraints in actual practice that were not present in the written cases. The two methods may be complementary for further work in the evaluation of clinical practice in an ambulatory setting.

Outcome-based Quality Assurance for Hypertension

Although process criteria are widely used for many clinical conditions, particularly those requiring surgery, outcome criteria are quite compelling for evaluation of quality of care for hypertensives. The fact that clinical trials that have demonstrated that blood pressure control decreases both mortality and events such as myocardial infarction and stroke gives these criteria a high level of validity. At present, the consensus standard is "to achieve and maintain arterial blood pressure below 140/90 mm Hg, if possible."[9] Although the present standard has achieved widespread consensus, the standards used in the following studies vary considerably, due to changes over time and between investigators. This limits comparisons across studies.

Williamson, who developed the outcome-based "health accounting" system of quality assurance,[14-15] studied hypertension extensively. Health accounting sets initial priorities, assesses outcomes, determines if improvement is needed, implements changes, and then reassesses outcomes. In a one-year follow-up of hypertensives with congestive heart failure treated at a Baltimore city hospital emergency room in 1966, he found a case fatality rate of 21 percent, twice that he predicted.[14] Consequently he initiated changes in hypertension evaluation and follow-up in the emergency room. Brook and Appel,[4] who studied physicians at the same hospital in 1971, found that 44 percent of the 114 hypertensive patients remained hypertensive after 5 months, and only 44 percent of the total had acceptable care based on outcome criteria. They concluded that physicians at that institution were encouraged to test for rare underlying causes of hypertension but not to manage it on a long-term basis.[4]

The health accounting approach to hypertension care was also field-tested in two clinics of a health maintenance organization. Thirty-six percent of 248 hypertensives were found to be uncontrolled, much higher than the 5 percent level considered acceptable by the investigators. Importantly, many of the physicians overestimated patient compliance and failed to educate their patients about key control measures. Many patients lacked critical knowledge of hypertension. The health accountant then gave individualized education and feedback to all the physicians and some patients. All patients subsequently had improved control of their hypertension, although the patients who received education improved most, to only 13 percent out of control. Despite a great improvement in hypertension control, the investigators believed further gains could be made.[15]

These studies led to a controlled trial at Johns Hopkins Hospital of a one-to-two hour physician tutorial and feedback session based on physician-specific data collected on their patients a few months earlier.[16] The sessions resulted in a voluntary reallocation of physician time to patient education. Patients improved their compliance, and blood pressure was controlled in 69 percent of the experimental group compared with 36 percent of the controls. Though this would appear to be a milestone, it has not been replicated, a fact that may limit its usefulness.

Two more recent investigations into feedback and tutorial found no improvement in blood pressure control for hypertensives.[10,17] Feedback about individual patients was coupled with comparison with other providers by Winickoff *et al.*[10] Dickinson *et al.*[17] used computer-based feedback regarding individual patient control together with physician education similar to that of Inui,[16] without success. Although the physicians demonstrated increased knowledge and both the experimental and control groups improved over 50 percent in levels of blood pressure control during the study, no difference in blood pressure control was found between the two groups.[17] The already high levels of control, 60-80 percent, achieved in these more recent studies may have contributed to the inability to demonstrate an effect. Inui[16] defined blood pressure control based on unspecified criteria developed by study physicians, where Winickoff[10] specified control based on an average diastolic pressure for two categories of severity of illness and Dickinson[17] used age-specific criteria based on both systolic and diastolic pressure. On the other hand, lack of efficacy of the intervention, incorporation of the earlier techniques into general practice, or poor compliance by the patients also may have contributed to these findings.

An active surveillance system at a health care facility in the Bronx, NY, was found to improve blood pressure control by 50 percent among an active population of 2,000 hypertensives.[18] The system used computer cards to generate lists for active follow-up of those patients not seen in at least four months by community-based family health workers. The system also gave the physician and the team feedback about the level of blood pressure control among their patients on a quarterly basis. The system was estimated to cost about $20 per patient per year, not an inexpensive method of self-monitoring.

Nobrega *et al.*[19] evaluated both process and outcome criteria for management of 138 patients with hypertension at the Mayo Clinic. A total of 89 process measures

(including medical history, physical examination, initial laboratory tests, special diagnostic tests, treatment, and follow-up) were established by a group of two experts and three general internists. Completion of the process measures was highly variable, ranging from 10 to 90 percent, although more process measures were completed for patients with severe hypertension. Patient outcomes studied, which ranged from blood pressure control to congestive heart failure to death, were better than predicted. Significantly, the authors failed to find an association between process and outcome. In commenting on the study, Brook[20] noted that this finding "clearly reflect[s] the limitations that continue to plague quality assessment efforts" and suggested it may be due to overly rigid or inappropriately weighted process criteria, lack of control for disease severity, or poor recording of the actual care rendered in the medical chart.

Although the counter-intuitive results reported by Nobrega *et al.*[19] were curious, a randomized trial among 230 hypertensive employees of a Canadian steel mill investigated some of the unmeasured factors suspected to have contributed to some of the poor results seen above.[21] Haynes *et al.* investigated three factors: the decision to treat, the "vigor" of prescribed medications, and patient compliance. The decision to treat was weakly associated with a fall in blood pressure, after adjusting for other factors. The vigor of treatment, based on the medication and dosage, was significantly associated with blood pressure control, as was patient compliance of greater than 80 percent based on pill counts. Thus, certain process measures were associated with the outcome measure of blood pressure control, highlighting the issue of patient compliance.

Although compliance with treatment has been reviewed recently in the *MMJ* in connection with chronic diseases,[22] a few points deserve reiteration. Compliance can be assessed by asking straightforward questions of the patient.[23] Educational programs have been shown to improve long-term blood pressure control in practice settings,[24] particularly when they predispose, enable, and reinforce health-related behaviors.

Conclusions

Peer review as a matter of public policy is continuing to grow in importance and will soon be used in the assessment of outpatient care. The well-documented connection between blood pressure control and prevention of morbidity and mortality make the use of outcome measures logical for evaluation of the quality of hypertensive care. Hyptertensive control is clearly feasible but requires a partnership between physician and patient; neither can achieve it alone. Although one study has shown that review and feedback help improve patients' blood pressure control, the evidence suggests that the overall impact of this intervention is low (that is, as a percent of all treated hypertensives). Nonetheless, low-impact interventions can have a major impact when implemented on a large scale for such a common condition. Process measures appear less useful in assessing the care of hypertensive patients, although ongoing developments may improve their utility. Further work, particularly in the areas of compliance and patient education, is needed to optimize patient outcome in hypertension. There is a growing interest in the link between structures, processes, and outcomes of care in the ambulatory setting, and past studies of hypertension serve as a template for future action.

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Victoria E. Cameron
Med Chi's Auxiliary President 1989 - 1990

Victoria E. Cameron is the 1989-90 President of the Auxiliary to the Medical and Chirurgical of Maryland. After studying psychology at Montgomery College and American University, she entered the mortgage banking business where she was employed for several years.

Mrs. Cameron's husband, Dr. Ronald R. Cameron, is a native Marylander. After graduating from the University of Maryland Medical School, Dr. Cameron went into the U.S. Navy where he continued his medical education studying plastic, reconstructive, and hand surgery. Dr. Cameron has been a very active member of the county and state medical societies, having been President of the Montgomery County Medical Society and a member of several county and state committees, as well as an active participant of the regional and national plastic and reconstructive surgical societies. He is a past president of the National Capital Society of Plastic Surgery and currently a clinical Associate Professor of Surgery at Georgetown University Medical Center.

While Mrs. Cameron has always been active in volunteer organizations, she credits her initial interest in the Auxiliary and medical issues to her husband's heavy involvement with organized medicine and its concerns.

After her marriage, Mrs. Cameron worked full time in her husband's practice. She was very active in her children's activities and volunteered at their schools for many years. She became interested in medical issues and served as President of the Auxiliary to the Montgomery County Medical Society, was a member of the Medical Society's Community Affairs Committee, and has held various other positions in the county and state Auxiliaries.



This year as President of the State Auxiliary, she hopes to address two significant issues: legislation and the prevention of child abuse. The battle for legislative reform to help ensure continued quality medical care is one she feels the Auxiliary can help fight. She believes that working cohesively and with the Medical Society, the Auxiliary can be an influence in the outcome of such legislation.

The fight against child abuse is another issue of particular importance to Mrs. Cameron. One of society's most devastating problems, child abuse and its eradication will be a major emphasis with the Auxiliary this year. She has asked each county Auxiliary to do at least one project and/or fund-raiser in this regard.

In addition to her Auxiliary activities, Mrs. Cameron is Chairman of the Advisory Board of the Silver Spring branch of Madison Bank of Maryland, she takes classes at the University of Maryland, and she is working as a licensed realtor. Dr. and Mrs. Cameron have four grown children. The Camerons have recently purchased a home in Annapolis and are enjoying the Annapolitan lifestyle in their free time.

Travel Seminar Fundraiser

Lourdes Morales has arranged a fundraiser for the benefit of AMA ERF in the form of a medical seminar on professional malpractice and practice management. This seminar, presented by the American Educational Institute, offers 20 hours of Category I CME credit and will be held in Hawaii. Mrs. Morales has offered to donate 25 percent of the travel commissions to AMA-ERF. In addition, if at least 16 physicians and their spouses book this trip, we will receive a free trip to auction for AMA-ERF at our annual meeting next April.

The cost of the trip is $1,449 per person and includes round-trip airfare and seven nights'accommodations. The seminar costs $306 for the physician and is complimentary for the spouse. Since the seminars are given year round, there is a choice of sites (Honolulu, Maui-Kaanapali, Maui-Wailea, or Kauai) and dates. For further information, please contact Lourdes Morales at 301-252-5020.

We hope to exceed our goal of $5,000 for this project, but the amount depends on the number participating.

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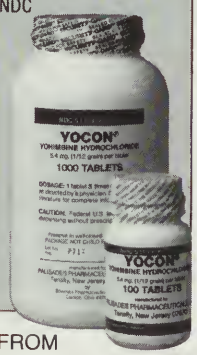
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Regional Chemotherapy for Hepatic Metastases from Colorectal Carcinoma

In the USA, colorectal cancer is the second leading cancer in incidence and deaths from cancer. An estimated 150,000 new cases and 62,000 deaths from it will be reported in 1989; in Maryland 2,900 new cases of colorectal cancer and 1,200 deaths will be reported. Almost 60 percent of patients with this cancer will develop hepatic metastases and among the newly diagnosed patients, almost 20 percent will have hepatic metastases at the initial diagnosis.

Of all the sites of distant metastases from colorectal carcinoma, the liver plays an overriding influence on overall prognosis and survival. Solitary metastasis or few metastatic lesions are confined to one lobe of liver, the most amenable to surgical resection are rare; only 5 to 10 percent of hepatic metastases can be resected. The majority of patients need other treatment modalities.

Systemic chemotherapy using 5 Fluoro-Uracil (5-FU), Fluoro-deoxy-uridine (FUDR), or combination chemotherapy using Nitrosourea compounds (methyl CCNU) and Vincristine achieved a modest response, 20 percent at best. Since in 25 percent of patients with colorectal cancer, the metastases would be confined to the liver, intensive efforts toward treating these first metastatic sites would change the overall prognosis. On this premise, many of the regional therapies for treatment of hepatic metastases are developed.

The liver has a unique blood supply from the arterial and portal venous system. The metastases derive blood from hepatic arterial branches, therefore, an intra-arterial route has therapeutic advantage over the portal venous route. Slowing or occluding the hepatic arterial blood supply (hepatic dearterialization) at the time of intra-arterial infusion of chemotherapy gives maximum therapeutic advantage over intraarterial infusion alone. However, subsequent thrombosis of the hepatic artery and the development of arterial collaterals make this method of chemoinfusion after hepatic dearterialization impractical for long-term infusions.

Discouraged by poor response to systemic chemotherapy without a survival benefit and encouraged by recent advances in infusion pumps, catheters, and surgical techniques, since 1960 many oncologists attempted regional chemotherapy via hepatic artery to the liver. Many phase I, II and now phase III trials using 5-FU or FUDR have been done to scientifically weigh the risk-benefit ratio.

The response rate to regional arterial 5-FU or FUDR infusion has been from 40 to 80 percent. The cumulative response rate reported from the implantable pump FUDR infusion is approximately 50 percent while it is 20 percent for systemic intravenous chemotherapy. The duration of response for intra-arterial infusion chemotherapy ranges from 6 months to 2.5 years with a median duration of 10 months. Average duration of response to systemic chemotherapy has been reported to be only 3 to 6 months.

When compared to systemic intravenous chemotherapy, the survival advantage for FUDR infusion chemotherapy has been demonstrated in patients without extrahepatic spread and especially in those without portal and hepatic lymph node metastases. However, when portal lymph node or other extrahepatic metastases are present, there has been no survival advantage shown. The reported cumulative median survival for the intra-arterial infusion group has been 18 months; for systemic chemotherapy it has been 6 to 8 months.

Implantable pumps for FUDR infusion are commonly used. Although expensive, their ease in outpatient administration of FUDR makes them more convenient compared with external-infusion pumps with a drug reservoir connected to the hepatic artery via an implanted port or a catheter. Percutaneous placement of the hepatic catheter has been described, but common anomalies of hepatic artery increase the chances of uneven perfusion and multiple branches to gastroduodenal area produce gastroduodenal complications. Placement of a catheter and pump by laparotomy is the preferred method. Cholecystectomy is performed on routine basis because of high (20 to 30 percent) incidence of chemical cholecystitis.

Most common side effects of hepatic intra-arterial FUDR infusion are sclerosing cholangitis, chemical hepatitis and gastroduodenal ulceration. Surprisingly, the first two side effects are peculiar only to FUDR infusion. The 5-FU intra-arterial infusion usually does not produce sclerosing cholangitis and chemical hepatitis.

Almost half the of patients will develop extrahepatic metastases while hepatic disease is under control by chemoinfusion through hepatic artery. Therefore, the need to treat other systemic micrometastases is imminent. At present, to control systemic metastases, rather than using conventional systemic 5-FU or FUDR therapy attempts with chemomodulation by leucovorin or continuous high-dose infusion of FUDR are being made.

MUKUND S. DIDOLKAR MD
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Department of Surgery, University of Maryland

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Diabetic patients who drink need guidelines to do it safely. Even so, a special set of problems arise. Metabolic control and lipid status, neuroendocrine, gastrointestinal, and sexual function may all be adversely affected.

Alcohol injures the body by acting like an astringent on the cells. It irritates the mucous membrane of the stomach lining. Gastritis often occurs in heavy drinkers. Alcohol is absorbed rapidly directly into the blood stream from the stomach. Only a small amount reaches the small intestine to be absorbed there.

More than 90 percent of the alcohol that enters the body is metabolized (detoxified) by the liver. The longer it is delayed from leaving the stomach by the presence of food, the more slowly it will be metabolized. It takes about six hours to metabolize three drinks of whiskey (4.5 ounces). Alcohol damages liver cells, and if consumed in large amounts over time it will destroy liver tissues (cirrhosis). Destroyed liver tissue cannot properly metabolize glucose, which causes a diabetic state that is very difficult to control.

If a diabetic patient consumes alcohol without associated *hor d'oeuvres* or other food containing carbohydrates and a hypoglycemic reaction occurs, it will likely be profound because alcohol prevents the release of glycogen from the liver as a counter-regulatory mechanism.

Many people successfully go through life without any use of alcohol, which proves that it is not essential. The diabetic patient has an even greater incentive not to use alcohol because it can aggravate the degree of control needed to properly manage his or her disease. The diabetic patient **should not** use alcoholic beverages. However, if a a diabetic patient chooses to use alcohol, some rules should be applied:

1. It should be discussed fully with the physician and family members. The frequency and amount should not be concealed.
2. It should be consumed shortly before eating or with food (carbohydrates).
3. It should be calculated into the meal plan with substitutions something like the following:

Beer	12 oz	Omit 1 bread + 2 fat exchanges
Light beer	12 oz	Omit 1/2 fruit + 2 fat exchanges
Wine, dry	4 oz	Omit 2 fats
Liquor (gin, scotch, whiskey)	1.5oz	Omit 3 fats

4. Always carry a diabetic identification card or bracelet. If you should end up in an emergency facility in a stuporous state with an odor of alcohol on your breath, it will be assumed that you are drunk rather than having a hypoglycemic reaction. As a result either no treatment or improper treatment may follow.
5. Always carry crackers or some form of carbohydrate with you in case the meal is delayed.
6. Never drive after you have been drinking.

Do not be concerned about alcohol used in cooking because the alcohol evaporates during the cooking and only the flavor remains. In conclusion, if you must drink, do so judiciously and anticipate potential complications.

DeWITT E. DeLAWTER MD
Editor ■

For AIDS Drug Information

Call 1-800-TRIALS-A

NIAID has established a toll-free number for quick access to current information on NIH-sponsored clinical trials for AIDs. One goal of the service is to enroll more blacks, Hispanics, and IVDAs in clinical trials. All calls and information are confidential. Mailed information will be sent in plain envelopes; the caller's name/address will be deleted from the system. Three trained health specialists [one Spanish-speaking] will answer calls Monday-Friday from 9 am to 7 pm EST.

advocate
’ad-və-kət-,kāt\n
1: one that pleads the cause of another; specif: one that pleads the cause of another before a tribunal or judicial court 2: one that defends or maintains a cause or proposal

THE MEDICAL AND CHIRURGICAL FACULTY-*Physician Rehabilitation Committee*
The very definition of **ADVOCATE**

The Committee, in addition to being **CONFIDENTIAL** and **NONDISCIPLINARY**, acts as an advocate for physicians utilizing, in a cooperative atmosphere, the services of the Committee.

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In Maryland the Physician Rehabilitation Committee of MED-CHI is available to all physicians, and their families.
The Committee is NONDISCIPLINARY and information is kept CONFIDENTIAL.
If you, a colleague, or family member is in need of our services call:
(301)539-0872
In Maryland 1-800-492-1056
Message line (301)727-0120 24 hours a day, 7 days a week, leave a message

Medical and Chirurgical Faculty of Maryland

Physician Rehabilitation Committee

HELPING IS OUR BUSINESS...If you wish to help further the work of the Committee through a tax deductible donation send to: The Medical and Chirurgical Faculty Charitable/Educational Foundation, 1211 Cathedral St. Baltimore, Maryland 21201
Please note on your donation: "Physician Rehab"

On July 4, 1989, *Henry P. Laughlin MD, ScD, ScSD* served as the National Independence Day Parade's Grand Marshal for the second year in a row. He is the first person to be awarded this honor for two consecutive years. "It was a tremendous honor," Dr. Laughlin said, "Last year at this time I thought I had a 1,001 chance of being Grand Marshal again."

As Grand Marshal, Dr. Laughlin rode in the parade in an Avanti convertible; he also presented several awards and greeted various dignitaries. He was introduced to several members of the White House staff and attended a special VIP tour of the White House on July 5.

An internationally known psychiatrist, author, educator, US Navy veteran, NPS supporter and volunteer, and a representative of the Sons of the American Revolution, Dr. Laughlin is an outstanding representative of medicine.

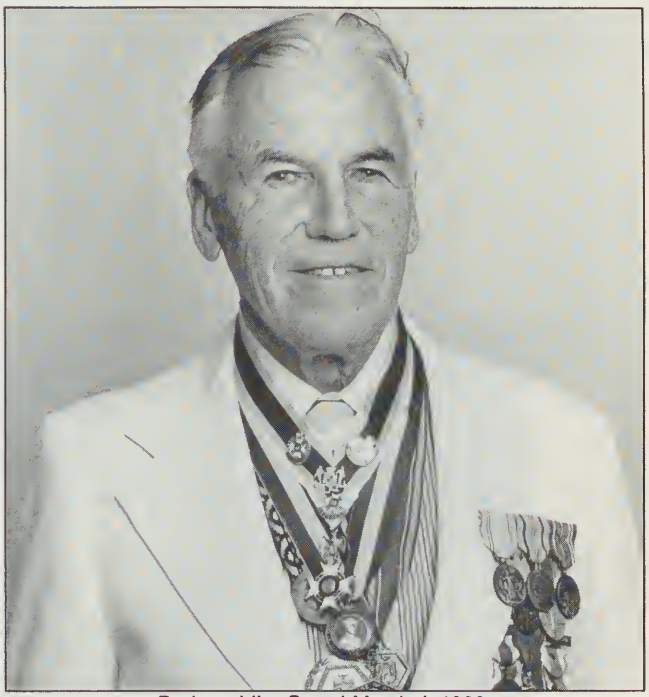
His medical career began 48 years ago when he received a medical degree from Philadelphia's Temple University in 1941. He served as a physician with the US Navy during World War II where he earned five theatre and service medals and three combat stars. He also has received letters of commendation from the Navy and the US Surgeon General.

For the next 40 years, Dr. Laughlin practiced in psychiatry in Chevy Chase, Bethesda, and the Frederick area where he became a prominent member of many organizations. In 1949, he founded and became the first president of the American College of Psychiatrists. He served as the first and eighth president of the American College of Psychoanalysts and was elected Honorary Life President in 1979. Three years later, the American Society of Physician Analysts named him a Lifetime Honorary President.

Dr. Laughlin was a Clinical Professor of Psychiatry at George Washington University Medical School from 1977 to 1983 and a faculty member for 35 years. In addition, he has served as Distinguished Visiting Professor at the University of Louisville School of Medicine since 1974. He holds honorary doctorates from Ursinus College and the University of Louisville. In honor of his many contributions to psychiatry, both Ursinus College and the American College of Psychoanalysts initiated awards programs in his name.

Long an active participant in organized medicine, Dr. Laughlin represented Montgomery County for 11 years on the Med Chi Council and is a past president of the Montgomery County Medical Society. Dr. Laughlin continues to represent the interests of his colleagues in Council and serves as a representative from Frederick County. On April 23, 1988 the Faculty honored their distinguished member by initiating the Laughlin Awards Program.

Dr. Laughlin is the author of a score of professional books including the medical best sellers: *The Neuroses in Clinical Practice*, *The Ego and Its Defenses*, *Mental Mechanisms*, and *The Neuroses*, along with 133 articles, chapters, editorials and reviews. Dr. Laughlin currently resides in Frederick County with his wife Page.



Dr. Laughlin, Grand Marshal 1989.

■ ■ ■

Fred R.T. Nelson MD, Potomac, recently was appointed as a charter member of The National Exercise for Life Institute's Advisory Board. Dr. Nelson has a private orthopedic practice in Bethesda, is on the attending staff at Suburban Hospital, and is a clinical assistant professor at the Uniformed Services University of the Health Sciences, and a visiting assistant professor with the University's Human Performance Laboratory. He's also an orthopedic consultant at the Sports Medicine Clinic of the University of Maryland in College Park.

Dr. Nelson's activities also include publishing numerous research papers, serving as past director of research and education for the Department of Orthopedics at the National Naval Medical Center in Bethesda and as an associate professor of the health sciences at the George Washington University School of Medicine.

The Minnesota-based National Exercise for Life Institute collects and disseminates print and electronic materials on the value of regular aerobic exercise encouraging people to start and maintain personal exercise programs in order to maintain overall health and to overcome specific health problems. ■

In Some Countries She Could Wait Months For Her Surgery.



We're not talking about life in the Third World.

Some of the most advanced industrial countries on earth have health care systems that are underfinanced, overextended and ill-equipped.

So what may be routine for us in America, can mean an unbearable wait for people like this little girl in a system where health care expenditures are controlled by government.

Most Americans enjoy the highest quality of health care in the world. We're free to choose from a variety of health care programs. Our medical schools are the world's standard. Our facilities are the most advanced. Without doubt, the U.S. health care system is the finest.

But the system is not without problems.

Good medical care by its nature is expensive. Not everyone in America has the resources to get good care. This is a shortcoming of our system, and the American Medical Association has a specific, comprehensive plan to correct it.

Our plan will reform the Medicaid program to cover 100% of those below the poverty level instead of the 40% covered under today's plan.

Our plan will expand employer coverage of workers and their families who lack other insurance.

Our plan will simplify and improve the Medicare system to ensure benefits will always be available to the nation's elderly.

Until these proposals are enacted, the AMA is calling on doctors to reaffirm their profession's tradition of providing care to those who cannot afford it.

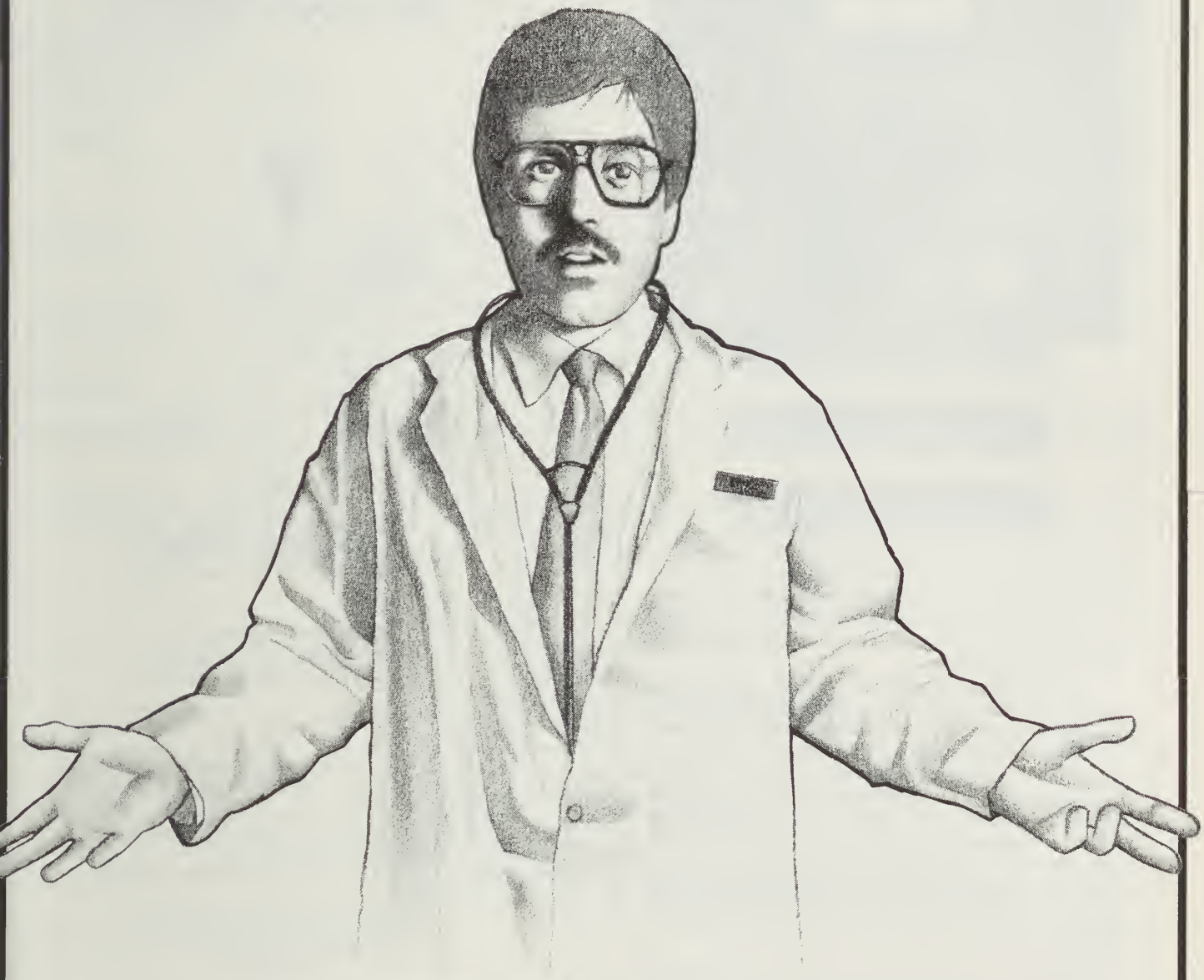
We believe the quality of the U.S. health care system can be strengthened through reforms like these in the Medicaid, Medicare and employer health insurance areas.

The AMA urges you to stay informed on the issues. To discuss them with your doctor. And to voice your opinion to your elected representatives.

The goal is clear. We already have the best health care system in the world. What we have to do now is to strengthen it.

American Medical Association

HOW ABOUT IT?



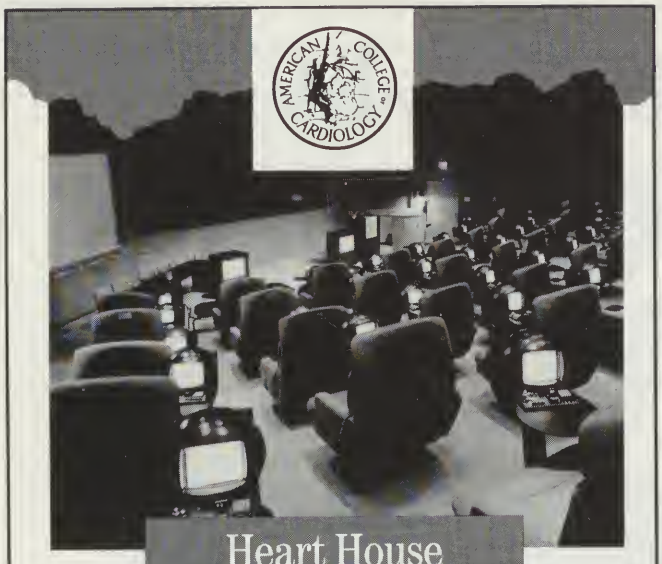
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The Classroom at Heart House is equipped with 69 Learning Center Chairs, each of which is fitted with a television monitor for viewing videotapes, slides and graphs; a computer response system for evaluating participants' progress; and a tape recorder jack for taping various aspects of the program. The Classroom itself houses, among other things, satellite transmission capability for experiencing actual procedures, as they happen, without leaving your individual learning station. The size of the Classroom affords you an exceptional opportunity to interact with the faculty as well as your fellow participants.

Heart House, the national headquarters of the American College of Cardiology, has been located in Bethesda, Maryland for over 10 years. Its proximity to the National Institutes of Health, the National Library of Medicine and downtown Washington, D.C. has proven to be very beneficial to those attending Learning Center programs.



For more information on the programs being offered at Heart House, please call the Learning Center at 1-800-253-4636 ext. 241 (in Maryland or outside the United States, 1-301-897-5400).

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MISCELLANEOUS MEEETINGS

October 6

Neuropharmacology of Antidepressant Drugs, 12 1:15 p.m., Psychiatric Institute of Washington, 4228 Wisconsin Ave NW, Washington, DC 20016. No charge for program/lunch; registration required (limited to 75 registrants). Info A. Cannamela 202-965-8540.

October 13

First Annual Trauma Conference - Peninsula General Hospital Medical Center; Sheraton, Salisbury, MD. Fee: $80; 8 AMA Cat I credits. Info: D. Kwiatkowski 301-543-7328.

October 18-19

Legal Medicine for Health Care Providers, Holiday Inn of Bethesda. Info: American Registry of Pathology, Armed Forces Institute of Pathology, Washington, DC 20306-6000 (202-576-2978/2980).

October 20

Issues in Obstetrical Care, St. Francis Hospital Family Practice, 7th and Clayton Sts., Wilmington, DE 19805. Info: Dr. J. Rosenfeld 301-421-4906.

November 5-8

83rd Annual Scientific Assembly of the Southern Medical Association, Washington Convention Center, Washington, DC. Info: K. McLendon 800-423-4992.

November 19-21

4th National Forum on AIDS and Hepatitis B, co-sponsored by AMA and 52 other health-related organizations. Info: National Foundation of Infectious Diseases, 4733 Bethesda Ave. - Ste. 750, Bethesda, MD 20814 (301-656-0003).

Shady Grove Adventist Hospital, 9901 Medical Center Drive, Rockville, MD. Info: 301-279-6000.

Oct 5 Medical Malpractice Update
Oct 12 Psychopharmacology
Oct 19 Current Treaments of Allergic Rhinitis
Oct 26 GI Complications in the Critically Ill Patient
Nov 2 Pulmonary Update
Nov 9 Hypoatremia/Diuretics
Nov 16 Reproductive Dysfunction in Cancer Patients
Nov 30 Wolf-Parkinson-White Syndrome
Dec 7 Hospice Care
Dec 14 Medical Management of Recurrent Stone Disease
Dec 21 Child Abuse & Neglect: Recognition & Reporting Laws

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October	Rafael C. Haciski, MD	301-554-2942
	Bayard L. Hochberg, Esq	301-823-2922
November	James E. Bowes, MD	301-543-6930
	Max R. Israelson, Esq.	301-539-6633

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All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

October 2-4

National Scientific Conference on Care of Alzheimer's Disease Patients and Families. Fee: $50; 16 AMA Cat I credits, CEU for nurses and other appropriate credit pending. Info: F. Boling 301-955-2959.

October 11

The Johns Hopkins Annual Cardiology Update 1989: Current Concepts in Cardiology, Sheraton Towson Conference Hotel. Fee: $60; AMA Cat I credit pending. Info: P. Campbell 301-955-3839.

October 11-12

Vernon B. Mountcastle Symposium - Neuroscience: Integrative Functions. Fee: $50; 12 AMA Cat I credits. Info: 301-955-2959.

October 16-21

Thirty-first Annual Emil Novak Memorial Course: Gynecology, Gynecological Pathology, Endocrinology, and High-Risk Obstetrics. Fee: $650 physicians, $450 residents and fellows; 44.5 AMA Cat I credits, 44 ACOG cognates. Info: C. Kearney 301-955-2959.

October 18-20

Industrial Hygiene Air Sampling for Safety Professionals. Fee: $550, course limited to 30 participants. Info: J. Corn 3011-955-2609.

October 28 - November 2

The Second Annual Written Boards in Emergency Medicine: A Comprehensive Review, Sheraton Towson Conference Hotel, Baltimore, sponsored by the Johns Hopkins Medical Institutions Department of Emergency Medicine. Fee: $550 residents; AMA Cat I credits and other appropriate credit pending.

October 30 - November 1

An Advanced Pediatric Life Support Course. Fee: $475; 20 AMA Cat I credits. Info: J. Nutt 301-955-2959.

November 10-12

Principles and Practice of MRI, Sheraton Inner Harbor Hotel, Baltimore. Fee: $395, $200 those in training; 20.5 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

November 17

Diabetic Retinopathy in 1989. Fee: $200, $100 those in training; 8 AMA Cat I credits. Info: J. Nutt 301-955-2959.

December 7-9

Second Annual Wilmer Institute Current Concepts in Ophthalmology. Fee: $250, $200 (those in training); 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

January 22-26

17th Annual Geriatric Symposium: A Board Review, Stouffer Harborplace Hotel, Baltimore. Fee: $465 before November 10, $540 thereafter; 33.5 AMA Cat I credits, AAFP prescribed hours.

March 22-23

Symposium on Dysphagia III: Basic Concepts of Swallowing and Swallowing Disorders. Fee: $350 physicians, $175 residents and allied health professionals; AMA Cat I and other appropriate credits pending. Info: J. Ryan 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: Nov 6-10. Fee: $500; 40 AMA Cat I credits.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA Cat I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.

October 12 — **Dean's Conference #1: How to Manage Common Emergencies - Part I**, UMAB Campus, Baltimore. Fee: $25*; AMA & AAFP credits available.

October 21 — **Ischemic Nitrates**, Stouffer Harbor Place Hotel, Baltimore. Fee and credits TBA.

November 10 — **Clinical Neuroimmunology Synmposium**, Baltimore Marriott Inner Harbor Hotel, 9 a.m. - 5:30 p.m. Info: Dept. Neuroology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

November 11 — **Neurology and Music at Maryland - Session I**, Updates on available diagnostic evaluation procedures for neurologic problems plus pertinent information on stroke. A day of medical education, an evening of entertainment by the Baltimore Symphony Orchestra. Info: Dept. Neurology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

November 30 — **Dean's Conference #2: How to Manage Common Emergencies - Part 2**, UMAB Campus, Baltimore. Fee: $25*; AMA & AAFP credits available.

December 13 — **Dean's Conference #3: Common Medical Problems**, UMAB Campus, Baltimore. Fee: $25*; AMA & AAFP credits available.

January 25 — **Dean's Conference #4: Common Psychiatric Problems**, UMAB Campus, Baltimore. Fee: $25*; AMA & AAFP credits available.

February 23 — **Dean's Conference #5: Advances in Clinical Therapeutics**, UMAB Campus, Baltimore. Fee: $25*; AMA and AAFP credits available.

February 24 — **Neurology and Music at Maryland - Session II**, Reports on epilepsy, pain and recurring disorders, and multiple sclerosis, AIDS, and other neurologic infections. A day of medical education, an evening of entertainment by the Baltimore Symphony Orchestra. Info: Dept. Neurology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

Continuously Throughout the Year

University of Maryland Dean's Conferences - Held monthly, these conferences are designed for the Family/General practitioner and the internist. Each conference highlights a different clinical department, placing emphasis on the practical methods currently being used and researched at the University of Maryland. **1990 Dates: March 22 and April 26.**

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Oct 19-20 - Provider
Nov 16-17 - Provider
Dec 14-15 - Provider ■

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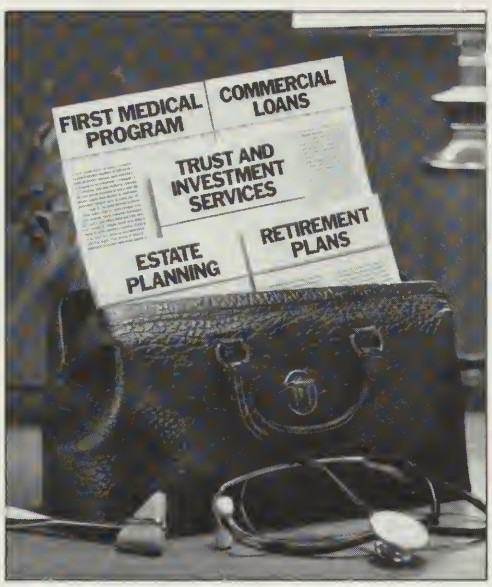
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VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

Contraindications: VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If excessive hypotension occurs, the patient should be placed in supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See DOSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions.*)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy—Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters of pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

Nursing Mothers: Milk in lactating rats contains radioactivity following administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

HYPERTENSION: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

HEART FAILURE: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Cardiac arrest; myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION).

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Vasculitis, muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, if possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added.

Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose of enalapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine ot up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum of 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) If possible, the dose of the diuretic should be reduced, which may diminish the likelihood of hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent careful dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range for the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACOLOGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart failure patients with hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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November 1989



Understanding and Management of Genetic Disorders

Victor A. McKusick MD

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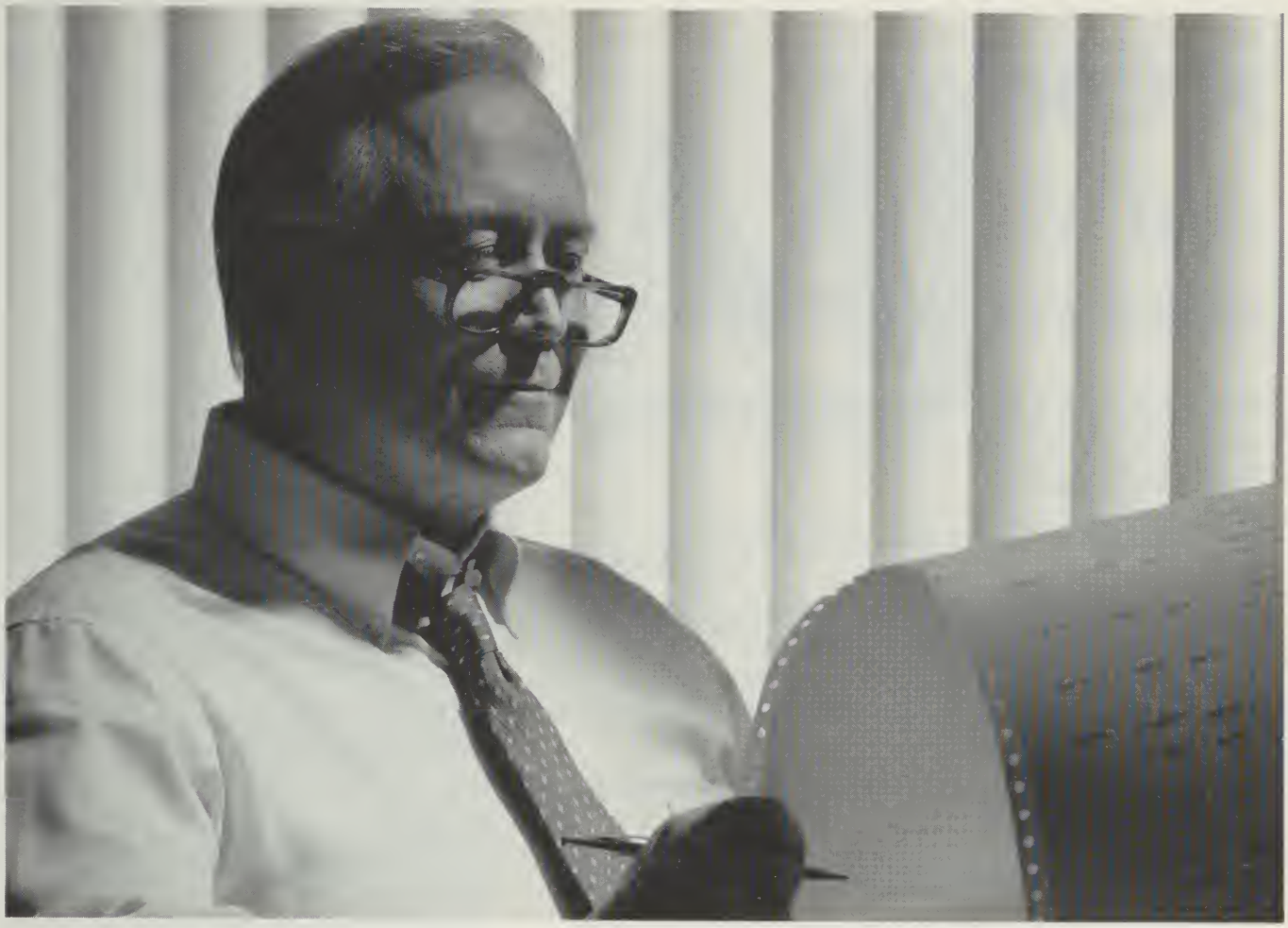
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Historical Perspectives: The Understanding and Management of Genetic Disorders 901
Victor A. McKusick MD
In the last 30 years clinical genetics has become a defined specialty, and at the same time, genetics has been incorporated into the warp and woof of clinical medicine, every aspect and every specialty being involved.

Demographic and Epidemiological Perspective on Genetic Disorders 911
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NOVEMBER 1989
New Communicable Disease Regulations

The new Code of Maryland Regulations, Communicable Diseases 10.06.01, on the reporting and control of communicable diseases, went into effect in August 1989. The following is a copy of the majority of these regulations. The sections on sexually transmitted diseases (STD), including human immunodeficiency virus (HIV), have been omitted because they are being revised. They will be printed in a later edition. If you have any questions or need morbidity report cards, call your local health department or call 301-225-6712.

Title 10
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Subtitle 06 DISEASES

10.06.01 Communicable Diseases

Authority: Health-General Article, §§2-104(b) and 18-101 et seq., Annotated Code of Maryland

.03 Reportable Diseases, Conditions, Outbreaks, and Unusual Manifestations.

A. List of Reportable Diseases and Conditions.

(1) Amebiasis;
*(2) Animal bites;**
*(3) Anthrax;**
*(4) Botulism;**
(5) Brucellosis;
(6) Chancroid;
*(7) Cholera;**
*(8) Diphtheria;**
(9) Encephalitis;
(10) Gonococcal infection;
(11) Granuloma inguinale;
*(12) Haemophilus influenzae type b invasive disease;**
(13) Hepatitis, viral (A, B, non-A/non-B, delta, undetermined);
(14) Human immunodeficiency virus infection (AIDS and all other symptomatic infections);
(15) Kawasaki syndrome;
(16) Legionellosis;
(17) Leprosy;
(18) Leptospirosis;
(19) Lyme disease;
(20) Lymphogranuloma venereum;
(21) Malaria;
*(22) Measles (Rubeola);**
(23) Meningitis (viral, bacterial, parasitic, and fungal);
*(24) Meningococcal disease;**
(25) Mumps (infectious parotitis);
(26) Mycobacteriosis, other than tuberculosis and leprosy;
*(27) Pertussis;**
(28) Pertussis vaccine adverse reactions;
*(29) Plague;**
*(30) Poliomyelitis;**
(31) Psittacosis;
*(32) Rabies;**
(33) Rocky Mountain spotted fever;
*(34) Rubella (German measles) and congenital rubella syndrome;**
(35) Salmonellosis;
(36) Septicemia in newborns;
(37) Shigellosis;
(38) Syphilis;
(39) Tetanus;
(40) Trichinosis;
(41) Tuberculosis;
(42) Tularemia;
*(43) Typhoid fever (case or carrier, or both, of Salmonella typhi).**

B. The diseases or conditions shown with an asterisk (*) in §A, above, shall be reported immediately by telephone and in accordance with Regulation .04.

C. Outbreaks and Single Cases of Diseases of Public Health Importance. An outbreak of a disease of known or unknown etiology that may be a danger to the public health is reportable. A single case of a disease not included in §A, above, of known or unknown etiology that may be a danger to the public health is reportable.

D. Unusual Manifestations. An unusual manifestation of a communicable disease in an individual is reportable.

.04 Reporting Procedures.

A. Sources of Reports.

(1) Health Care Providers. A health care provider, such as a physician, physician's assistant, osteopathic physician, dentist, chiropractor, nurse practitioner, nurse, podiatrist, or any other licensed health care provider, who knows of a case of a reportable disease, condition, outbreak, or unusual manifesta-

tion (see Regulation .03), and a medical examiner and an administrator of a hospital, clinic, dispensary, or nursing home who knows of a case of a reportable disease, condition, outbreak, or unusual manifestation shall report it to the health officer within the time limits specified in §B, below.

(2) School and Child Care Facility Personnel.

(3) Masters of Vessels or Aircraft.

(4) Medical Laboratory Personnel. The director of a medical laboratory shall report to the health officer:

(a) Laboratory evidence of a reportable condition as specified in Health-General Article, §18-205, Annotated Code of Maryland; and

(b) Evidence of any other condition as requested by the Secretary.

(5) Persons listed in §A(1) — (4), above, and any other individual having knowledge of an animal bite shall report the bite to the health officer.

(6) A food establishment (see Health-General Article, §21-301, Annotated Code of Maryland) shall report immediately to the health officer an occurrence of a reportable disease, condition, outbreak, or unusual manifestation.

B. Method and Timing of Reports.

(1) A person listed in §A of this regulation:

(a) [[Listed in §A shall]] Shall report a case of a disease, condition, outbreak, or unusual manifestation listed in Regulation .03 to the health officer within 48 hours in writing on a form provided by the Secretary and shall include information as prescribed on the form;

(b) Reporting a disease that is noted in Regulation .03A with an asterisk (*) shall report that disease immediately by telephone to the health officer;

(c) [[Listed in §A of this regulation shall]] Shall report an outbreak immediately by telephone to the health officer.

.05 Record Maintenance and Confidentiality.

The custodian of a report identifying an individual that was filed by a reporting source (Regulation .04A) in compliance with the provisions of Health-General Article, §§18-201, 18-202, and 18-205, Annotated Code of Maryland:

A. Shall keep the report and record confidential;

B. May not open a report or record to public inspection;

C. Shall release a report or record or respond to a subpoena for a report or record in criminal or civil proceeding only pursuant to court order sealing the record; and

D. Shall make a record or report available to a governmental agency performing its lawful duties as authorized by an act of the Maryland General Assembly or the United States Congress when the Secretary determines that the release of information is necessary to protect the public health or to prevent the spread of an infectious or contagious disease.

.06 General Control Measures.

A. Necessary Action. The Secretary or health officer shall:

(1) Take any action or measure necessary to prevent the spread of communicable disease or to control a reportable disease and condition; and

(2) Issue, when necessary, special instructions for control of a disease or condition.

B. Epidemiologic Investigations.

(1) A health officer shall respond to each reported outbreak or suspected outbreak of disease within the health officer's jurisdiction in order to collect data to assist in establishing adequate control measures.

(2) A health officer shall investigate a reported case or suspect case of a condition as requested by the Secretary.

(3) The Secretary may, in conjunction with the health officers, conduct the epidemiologic investigation for each reported case or suspected case in an outbreak involving two or more jurisdictions or states.

(4) An individual, business, facility, or agency shall make available to the Secretary or the health officer all records and information necessary to the epidemiologic response or investigation.

C. The health officer or Secretary shall order cessation of operation of a business or facility determined or suspected to be a threat to public health until the public health threat is determined by the health officer to have ceased.

D. Carrier Approval.

(1) The health officer shall grant or deny approval to a carrier of a communicable disease to work in any of the following occupations involving:

(a) Care of young children;

(b) Care of the elderly;

(c) Food handling; and

(d) Patient care.

(2) The health officer shall grant or deny approval to a carrier of a communicable disease to attend:

(a) School; or

(b) A child care facility.

(3) The health officer shall consider the following when granting or denying approval to a carrier of a communicable disease to work in occupations or to attend settings listed under §D(1) and (2), above:

(a) The seriousness of the disease;

(b) The route or routes of transmission of the disease;

(c) The contagiousness of the disease;

(d) The behavior, neurological development and condition, and physical condition of the carrier;

(e) The susceptibility to the disease of those likely to be exposed to the carrier in the occupation or setting;

(f) The precautions that may be taken to minimize or eliminate the danger of transmission; and

(g) Precedents in the practice of public health.

E. Control of Food Handlers. A case with any of the following diseases, or a confirmed or suspected carrier of the organisms causing any of the following diseases, may not serve or handle, in any manner whatsoever, food intended for public consumption:

(1) Amebiasis caused by Entamoeba histolytica (see Regulation .08);

(2) Cholera;

(3) Disease causing diarrhea, unless physician-certified as noninfectious;

(4) Diphtheria;

(5) Hepatitis A (see Regulation .10);

(6) Salmonellosis (see Regulation .16);

(7) Shigellosis (see Regulation .20);

(8) Streptococcal infection caused by group A beta-hemolytic Streptococcus;

(9) Typhoid fever or carrier of Salmonella typhi (see Regulation .23).

F. Control of Communicable Diseases in Schools and Child Care Facilities.

.08 Amebiasis.

A. Control of a Case. A case may not participate in an occupation involving patient care, care of young children or the elderly, and food handling until diarrhea has ceased.

B. Control of Contacts.

(1) The health officer shall investigate only household and close contacts whose occupations involve food handling, patient care, and care of young children or the elderly.

(2) A contact who has diarrhea shall submit three fecal specimens for examination. If a specimen is positive for Entamoeba histolytica, the contact becomes a case, and the control measures specified in §A, above, apply.

C. Infection Control. Health care providers shall practice enteric precautions.

.10 ***Hepatitis, Viral Type A.***

A. Control of a Case. A case may not participate in an occupation involving food handling, patient care, or care of young children or the elderly for 1 week after onset of jaundice, or for 2 weeks after the onset of illness, if not jaundiced.

B. Control of Contacts. The physician in attendance or the health officer shall offer immune globulin to contacts for prophylaxis as soon as possible, but within 2 weeks of exposure to household, sexual, child care, or other contacts as determined by the health officer.

C. Infection Control. Health care providers shall practice enteric precautions.

.11 ***Hepatitis, Viral Type B.***

A. Control of a Case. A physician in attendance upon a case having viral hepatitis type B shall educate that case on the:

(1) Risks of sexual transmission, maternal-infant transmission, and transmission by the sharing of hypodermic needles and other drug paraphernalia; and

(2) Availability of hepatitis B vaccine and hepatitis B immune globulin for contacts who have had sexual contact with a case of hepatitis B within the preceding 14 days, contacts who have percutaneous exposures to hepatitis B, and infants born to case mothers who carry hepatitis B virus at delivery, and the need for referring those contacts to health care providers for preventive treatment.

B. Control of Contacts. A physician or health officer in attendance upon a contact of viral hepatitis type B shall:

(1) Educate that contact about the availability of vaccine and hepatitis B immune globulin for contacts who have had sexual contact with the case within the preceding 14 days, and contacts who have percutaneous exposures; and

(2) Recommend appropriate preventive treatment.

C. Infection Control. Health care providers shall practice universal precautions.

.12 ***Measles (Rubeola).***

A. Control of a Case. A case may not attend a school or child care facility from the onset of the illness at least through the 4th day after the rash appears.

B. Control of Contacts. The health officer may require all nonimmune individuals to be excluded from a school or child care facility when a case of measles is diagnosed or suspected in a student, employee, or volunteer of the school or facility. The health officer shall authorize readmission upon documented proof of immunity in the form of immunization record, serologic test, or the low likelihood of disease transmission.

C. Infection Control. Health care providers shall practice respiratory precautions from the onset of illness at least through the 4th day after the rash appears.

.13 ***Psittacosis.***

A. There is no control of a case or contacts.

B. Infection Control. A health care provider shall practice appropriate disinfection or disposal of respiratory discharges.

C. The sale, distribution, and quarantine or exotic birds shall be subject to Health-General Article, §§24-101 — 24-110, Annotated Code of Maryland.

.14 ***Rabies.***

A. Control of a Case (Human). A health care provider shall apply contact isolation to the case for the period of communicability.

B. Control of Contacts. A health officer or health care provider shall evaluate individually a close contact or hospital contact to determine the need for post-exposure rabies prophylaxis. A health care provider shall warn an immediate attendant of the hazard of infection.

C. Infection Control. A health care provider shall practice contract isolation.

D. Confinement or Examination of Animals. The health officer or the Maryland Public Health Veterinarian shall direct the quarantine, examination, control, and disposition of any animal that bites or otherwise potentially exposes a human to rabies, according to COMAR 10.06.02.

.15 ***Rubella (German Measles).***

A. Control of a Case.

(1) A health officer or health care provider shall recommend that a case be isolated from a woman of childbearing age who is not immune or is of unknown immunity, from the onset of illness through the 7th day after appearance of the rash.

(2) A case may not attend a school or child care facility from the onset of the illness through the 7th day after the appearance of the rash.

B. Control of Contacts. The health officer:

(1) May require all nonimmune individuals to be excluded from a school or child care facility when a case of rubella is diagnosed or suspected in a student or other employee or volunteer of that school or facility;

(2) Shall authorize readmission by documented proof of immunity in the form of an immunization record, serologic test, or the low likelihood of disease transmission.

C. Infection Control. A health care provider shall provide contact isolation for 7 days after onset of rash.

.16 ***Salmonellosis.***

A. Control of a Case.

(1) A case may not attend a child care facility until the:

(a) Case's fecal cultures are Salmonella free on three consecutive specimens collected not less than 24 hours apart and not sooner than 48 hours following discontinuation of antibiotics (if antibiotics have been given); or

(b) Health officer approves readmission based on the likelihood of disease transmission.

(2) A case with or without diarrhea may not participate in an occupation involving food handling, patient care, or care of young children or the elderly until:

(a) Fecal cultures are Salmonella free on three consecutive specimens collected not less than 24 hours apart and not sooner than 48 hours following discontinuation of antibiotics (if antibiotics have been given); or

(b) The health officer approves resumption of occupational duties based on the low likelihood of disease transmission.

B. Control of Contacts. The health officer shall require culture of feces only of those household and close contacts who attend child care facilities or whose occupations involve food handling, patient care, or care of young children or the elderly. A contact shall submit for examination two fecal specimens taken at an interval of not less than 24 hours. If either of these specimens is positive for Salmonella, the health officer shall consider the contact to be a case, and the control measures specified in §A, above, shall apply.

C. Infection Control. A health care provider shall practice enteric precautions.

D. Control of Carriers. A health care provider shall apply the same control measures to carriers as to cases.

.17 Sexually Transmitted Diseases — Chancroid, Gonococcal Infections, Granuloma Inguinale, Lymphogranuloma Venereum, and Syphilis.

To follow in a later issue.

.18 Sexually Transmitted Disease — Human Immunodeficiency Virus (HIV) Infection.

To follow in a later issue.

.19 Other Sexually Transmitted Diseases.

A. Control of a Case.

(1) Hepatitis, Viral type B — see Regulation .11.

(2) A physician in attendance upon a person who appears to have, or who has a sexually transmissible disease in a stage which is or may become communicable, shall:

(a) Instruct the person on the modes of transmission and the prevention of transmission;

(b) Render any necessary treatment to the case; and

(c) Advise the case to inform a sexual partner or partners of exposure and the need for examination and treatment.

B. Control of Contacts.

(1) Hepatitis, Viral type B — see Regulation .11.

(2) A physician in attendance upon a person who is a sexual contact of a case of a sexually transmitted disease shall perform a medical examination and render indicated treatment.

.20 Shigellosis.

Same regulations as for Salmonellosis. See Section .16, above.

.21 Trichinosis.

A. There is no control of a case or contacts.

B. Environmental Control. The health officer shall:

(1) Collect the suspect food for laboratory examination;

(2) Determine and order the proper disposition of the product if it is a homemade product intended for home use only that has been implicated by epidemiologic or laboratory evidence; and

(3) Notify the Secretary, who shall have the product withdrawn from sale or distribution and shall order the proper disposition of the product that is implicated by epidemiologic or laboratory evidence if it is a product offered for sale in commerce or donated to a charitable organization.

.22 Tuberculosis.

A. Control of a Case.

(1) A health officer or health care provider shall isolate a patient who is in a communicable stage as long as the specific microorganism is excreted by the patient.

(2) A patient fulfills the requirements of isolation as long as the patient receives adequate chemotherapy, is under medical supervision, and observes the instructions issued by a health officer.

(3) The health officer shall instruct the patient in the proper disposal of sputum.

(4) Noncooperative Patient.

(a) A health officer shall place in isolation a person having tuberculosis in a communicable stage who refuses to observe the instructions of the health officer and exposes others to infection.

(b) The person shall remain in isolation until the health officer considers isolation no longer necessary for the protection of the public based on the low likelihood of transmission.

(c) When it is necessary to restrict an uncooperative tuberculosis case, a health officer shall seek to implement the least restrictive option of:

(i) Restriction of the case to home when others at home are not at risk of exposure;

(ii) Voluntary admission of the case to a hospital for treatment;

(iii) Court ordered admission of the case to a hospital for treatment; or

(iv) Court ordered incarceration of the case when the previous steps to restrict the person are not effective.

B. Control of Contacts. The health officer shall:

(1) Direct that tuberculin testing be performed on contacts of cases of tuberculosis in a communicable stage; and

(2) Recommend appropriate chemopreventive therapy.

C. Infection Control. A health care provider shall practice tuberculosis isolation on cases of pulmonary tuberculosis and drainage/secretion precautions on cases with extrapulmonary draining lesions.

.23 Typhoid Fever.

A. Control of a Case.

(1) A case may not attend a child care facility until fecal and urine specimens are Salmonella free on three consecutive specimens collected not less than 24 hours apart and not sooner than 48 hours following discontinuation of antibiotics, or until the health officer approves readmission based on the low likelihood of transmission.

(2) A case may not participate in occupations involving food handling, patient care, or care of young children or the elderly until fecal and urine specimens are Salmonella free on three consecutive specimens collected not less than 24 hours apart, not sooner than 48 hours after discontinuation of antibiotics, and not earlier than 1 month after onset.

(3) If any one of the specimens required in §A(1) or (2) is positive, at least three consecutive negative cultures of feces and urine at intervals of 1 month within the 12 months following onset shall be required for release.

(4) If a person continues to excrete Salmonella typhi at 12 months, the requirements of §D, below, apply.

B. Control of Contacts. Household, sexual, and other close contacts of a case or carrier may not participate in occupations involving food handling, patient care, or care of young children or the elderly until three consecutive cultures of feces and urine taken at least 24 hours apart are negative.

C. Infection Control. A health care provider shall practice enteric precautions.

D. Control of Carriers.

(1) A health officer shall:

(a) Monitor the location, occupation, and bacteriological status of a carrier of Salmonella typhi;

(b) Keep a complete file of all pertinent data on the carrier;

(c) Issue written instructions to the carrier concerning the restrictions upon and responsibilities of the carrier;

(d) Contact each carrier in the health officer's jurisdiction at intervals of not more than 1 year to check on the carrier's occupation and address and to determine if all instructions are being followed;

(e) Release a carrier from supervision only after there have been six consecutive negative cultures of feces and urine, taken 1 month apart; and

(f) Forward immediately to the Secretary a report of a carrier who has relocated outside the health officer's territorial jurisdiction for referral to the health officer of the proper jurisdiction.

(2) A case or a case's physician shall submit the fecal and urine specimens to the State Laboratory for the release of a carrier.

(3) A carrier:

(a) May not participate in occupations involving food handling, patient care, or care of young children or the elderly;

(b) Shall abide by Regulation .06D and E; and

(c) Shall keep the health officer informed at all times of the carrier's address and occupation, and shall notify the health officer at once of any change in address or occupation.

Computer Memory

When the IBM Personal Computer was first introduced in the early 1980s its central processing unit (sometimes referred to as CPU) was the Intel 8088 microprocessor. This processor was limited to a 1 megabyte address space, that is, the microprocessor could access up to 1024K of memory. At about the same time that IBM was introducing its first PCs, Intel was introducing the 80286 microprocessor. The 80286 represented a major advancement since it would be compatible with the 8088 and had the capability of directly accessing up to 16 megabytes of memory. Intel carried out the backward compatibility by having two distinct modes of operation on the 80286. The 8088 compatible mode is referred to as Real Mode, while the 80286's native mode is called Protected Mode. Since then Intel has introduced the 80386 microprocessor, compatible with both the 8088 and the 80286 modes and is now in the process of introducing its new 80486 microprocessor, which will more than likely be backwards compatible with its other microprocessors.

Conventional Memory

When the IBM PC was first developed, it was available with several operating systems. The most popular was the operating system developed by Microsoft, PC-DOS (Personal Computer Disk Operating System). DOS was developed for the 8088 microprocessor and is built around the limitation of a 1 megabyte address space. DOS uses 640K of its assumed 1 megabyte of memory for the running of programs. The remaining 384K of address space is reserved for video display RAM, system BIOS (Basic Input Output System) ROM(Read Only Memory). Computers running under DOS efficiently use only a 1 megabyte address space. Computers with 80286 or 80386 processors running under DOS generally operate in Real Mode, which permits the processor to address a maximum of only 1 megabyte of memory.

Conventional memory (sometimes called system memory) is the memory that DOS can access directly. While the 80286 and the 80386 microprocessor operating in its 8088 compatible mode can access 1 megabyte, DOS (which is the interface between the user and the microprocessor) can only deal with 640K (655360 bytes) of memory.

Since most programs such as word processors and databases use DOS to interface with the microprocessor, they also are limited to using only 640K. This memory limit has become a problem since it imposes major restrictions on the creation of large databases, spreadsheets, desktop publishing chapters, and computer-aided design files. These programs usually require more than 640K of memory.

Expanded Memory

Expanded memory is a way around the DOS 640K limit. Various companies have devised their own methods of circumventing the DOS limit, but the most popular method uses the expanded memory specification designed by Lotus, Intel, and Microsoft.

Originally developed by the Lotus Development Corporation with the Intel Corporation, the Expanded Memory Specification (EMS) 3.0 became a fairly standardized means of getting around the DOS 640K limit. Microsoft joined forces with Lotus and Intel and developed the Lotus/Intel/Microsoft (LIM) EMS 3.2 standard.

This is how the LIM expanded memory works: The 80286/80386 microprocessor, when in Real Mode, can access 1 megabyte of memory. Part of that megabyte is the 640K used by DOS.

Another part is the 128K used by the computers ROM. Some of the remaining memory is used for screen display, however there are about 128K of addresses left over. The LIM EMS standard takes as many 16K blocks of these unused addresses as possible and uses them as windows into the microprocessor's memory. One can think of it as a text file in a word processor. Only one page of text is on the screen at a time although there are several pages in the file. By pressing the Page Down key, the page on the screen gets replaced by the next page in line. LIM Expanded memory does the same thing, only with memory. This memory paging gives the microprocessor access to an additional 32 megabytes of memory.

To deal with all the page mapping (Paging Up and Paging Down) requries a special program called an Expanded Memory Manager. This program handles all communication between the programs, microprocessor, and the expanded memory add-on boards.

While LIM EMS has enabled the microprocessor to use the expanded memory, the problem remains that DOS still cannot recognize the additional memory. The solution to this problem is to have programs ignore DOS and deal directly with the Expanded Memory Manager (EMM). Only programs written specifically to talk to the EMM can use expanded memory.

Conventional-Expanded Memory

In the original Expanded Memory Specification (EMS 3.0) expanded memory was limited to a single 64K window above the DOS 640K boundary. A new standard, the Enhanced Expanded Memory Specification (EEMS), permitted expanded memory below the 640K boundary. AT machines come equipped with a minimum of at least 512K bytes of memory on the



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motherboard. This left a 128K region of unused addresses that could be recognized by DOS and also could be used by EEMS applications. Any expanded memory located below the 640K boundary is called conventional-expanded memory.

The only time these conventional-expanded pages will be noticed is when an operating environment for EMS is loaded (Desqview, Windows 286, Framework). These environments can use conventional-expanded memory to speed task switching.

Extended Memory

IBM introduced the IBM AT with a 80286 microprocessor as its Central Processing Unit (CPU). The IBM AT, when running under DOS, is operating in Real Mode. This means that 15 megabytes of its 16 megabyte address space goes virtually unused. The 15 megabytes is referred to as EXTENDED memory. DOS provided no management scheme for the extended memory on the 80286 or the 80386, therefore its usefulness under DOS is limited. To access extended memory from DOS (which operates in Real Mode), the 80286 must be switched to Protected Mode. As this is a fairly cumbersome task, few programs take advantage of it. One commonly used extended memory applications is IBM's VDISK, a RAM resident disk drive utility included in its PC-DOS package.

IBM introduced a new operating system, OS/2, developed for use on its 80286/80386s as well as on the Personal System/2(PS/2) machines. OS/2 runs in the 80286/80386's Protected Mode, which permits it full access to the 16 megabyte address space.

If you are running under OS/2 you will be loading both your operating system and programs into extended memory. When you provide your system with more RAM, OS/2 can run larger programs, provide larger disk caches and print buffers, and switch between tasks more quickly. If you are running under DOS, extended memory gives you more data space for sophisticated application programs or print spoolers and RAM disks.

Address questions to Bruno Matiello, Director of Computer Services, 1211 Cathedral St., Baltimore, MD 21201. (Please include your phone number.)

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The President's Letter

Prepared by the President of the Medical and Chirurgical Faculty of Maryland as a service to its members

September, 1989

Medical and Chirurgical Faculty of Maryland

It gives me pleasure to provide this brief report on my perspective of the Faculty's 1989 Semiannual meeting in Ocean City.

The meeting convened on Thursday, September 14. One of the most important aspects of this meeting was the development of several selected "White Papers" by expert physician groups. I will confess to some early apprehension when I saw that the meeting started with lectures at 8 a.m. These were to be presentations of the position papers or "White Papers" by five committee chairmen regarding the development of a proposed unified policy to be used by all Med Chi officers and members. Once these papers have been reviewed and passed by the Council, they will become official Med Chi policy, serving as an excellent and very useful resource for information, legislative testimony, and lecturing.

To my great relief and pleasure, the lecture hall quickly filled with members from all across the state and representing most specialties. None of these papers were of a clinical nature. They all spoke to the socioeconomic and legislative problems that we physicians face today. The lectures were outstanding and the members demonstrated great interest by their numerous and excellent questions after each presentation. Later, during the Council meeting, there was time to summarize and approve as policy several of these papers. The remainder of the papers, approximately ten, will be presented to Council at a special session on October 19, 1989 or at subsequent Council meetings.

Also during the Council meeting, the Policy and Planning Committee recommended that Med Chi develop a philosophy of membership that will include an Ad Hoc Committee to recruit specific target groups of physicians, such as academic, female, and FMG physicians. The Committee also will encourage the Student and Resident sections to involve the medical school Deans in our recruitment efforts. The Committee will comprise component membership committee members who will establish model guidelines for membership, as well as review the Bylaws for possible changes affecting membership.

The other major event at the Council meeting was the approval of a contract with the law firm of Rifkin, Evans, Silver, and Lamone to provide legal counsel and legislative representation to the Faculty. This contract includes a full-time "in-house" attorney for the Faculty who will guide day-to-day legal needs. We look forward to a long and productive relationship with this firm.

On Friday morning when the House of Delegates met all components were

The President's Letter

well represented. The various business aspects of the Faculty were attended to, including several bylaw changes that will be published along with a number of resolutions. If you ever doubted the democratic process in our organization, I recommend that you attend the next House of Delegates meeting.

The Clinical lectures for the entire program were well attended with very active participation by the audience. These lectures and their attendance by the membership was very gratifying as I was concerned that the business aspects of the meeting by Council and the House of Delegates might eclipse the rest of the meeting.

I believe the meeting was highly successful, and I am sorry if you missed it but hope you plan to attend future meetings to keep informed of the problems facing medicine. Most of the participants even had opportunities to enjoy the ocean and beach, which proved to be excellent at this time of year.

Raymond M. Atkins, MD
President

President's Bulletin on Hospice Care

In August 1989, the Medical Assistance Program informed the Faculty that it will cover hospice care for terminally ill Medicaid patients as an alternative to other covered services related to the active treatment of terminal conditions. The new hospice care benefit will be identical in most respects to the existing Medicare hospice benefit. For example, state-licensed hospice care agencies that participate in Medicare will functions as hospice providers.

In addition to the physicians directly involved in the hospice program, the patient's attending physician will have a significant role in the delivery of the patient's medical care. Other physicians will need to be aware of an individual's enrollment in hospice care, for the recipient will be restricted to obtaining any service related to the terminal condition from or through a designated hospice or from his / her attending physician.

Concurrent with the recipient's election of hospice care, the recipient would be enrolled in Medicaid's managed care program, with the designated hospice as the care manager. Therefore, for any bill to be paid on a hospice enrollee, the hospice's referral number must appear on the service provider's invoice.

For questions or more information regarding hospice care for Medical Assistance recipients, contact the Maryland State Health Department, Division of Program Services at (301) 225-5220.

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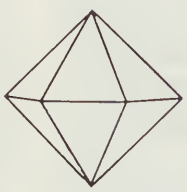
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1990 - 1991 Committee Selection Cards Attached

Executive Director's Newsletter

November 1989

Committee Selections for 1990-1991

A committee selection card follows this Executive Director's Newsletter. Members interested in serving on a Med Chi Committee must mail this card to the Faculty in order to be considered for appointment to a committee.

New Law Firm for Med Chi

In September 1989 the Faculty entered into a contractual agreement with the firm of Rifkin, Evans, Silver and Lamone to provide legal services for Med Chi. The senior partners of the new firm include Med Chi's lobbyist, Gerard E. Evans, Judge Edgar Silver and former chief legislative officer to Governor Schaefer, Alan M. Rifkin, Esquire.

New Med Chi Faculty Position Papers

During the Med Chi Semiannual meeting in September 1989, the Council adopted committee papers on AIDS and on prescription drug control to be Faculty Position Papers. Papers on topics such as smoking, Medicaid, Medicare assignment, and the uninsured will be presented to Council in the coming months. Several of these position papers will appear in the legislative issue of the *Maryland Medical Journal* in January. For copies of any of the Faculty's Position Papers contact Med Chi's Public Relations Department at 1-800-492-1056 or 301-539-0872 in Baltimore.

Med Chi Resolutions

In September 1989, the House of Delegates passed new resolutions on anabolic steroids, medical care review, and communication between professional medical care groups. The House also reaffirmed the Faculty's position by passing several resolutions on topics including the Medical Assistance Program, Hepatitis B vaccines, and high quality medical care. To obtain a copy of any Med Chi resolution, contact Med Chi's Communications Department at 1-800-492-1056 or 301-539-0872 in Baltimore.

Semiannual Meeting Awards

During the 1989 Semiannual Meeting in September, President Raymond M. Atkins MD presented a Certificate of Appreciation to the creators of Allegany Health Right, Inc., a nonprofit organization that provides free health care to people whose incomes are too low to cover costs of health insurance or medical services but too high to be eligible for government aid. The President also presented a Certificate of Appreciation to the physicians of the Allegany County Medical Society in recognition of the time and effort donated to Allegany Health Right, Inc.

Dr. Atkins also announced the winners of the Fourth Annual Media Awards for Excellence in Medical Journalism. Maureen

Curran of *The Montgomery Journal* won in the daily newspaper category for her article, "Treatment Offers Hope Over Bone Deformities." In the magazine and non-daily newspaper category, Robert Kanigel of *Science Illustrated* won for "Nicotine Becomes Addictive." Jamie Roberts of WJZ-TV won in the radio and television category for "Shocked Sober."

The third annual *Maryland Medical Journal* awards also were announced at the meeting. Carl I. Schoenberger MD, Jay H. Weiner MD, Frank J. May MD, Jeanne Spellman MD, and Robert G. Waltersdorff PhD, won the Practitioner's Best Article Award for their article, "Acute Pulmonary Histoplasmosis Outbreak following Home Renovation" (*MMJ*, June 1988). Charles Canady MD and Phillip J. Goldstein MD won the Resident's Best Article Award for "Elective Repeat Cesarean Section: Old Controversy, New Concepts" (*MMJ*, February 1988).

Medical Mutual Rate Reduction

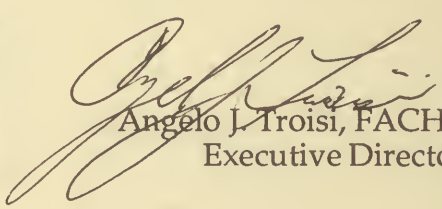
The Medical Mutual Liability Insurance Society of Maryland will offer a 20% dividend credit for all Medical Mutual Members who renew their policies in 1990. This one-time credit is in addition to any other discounts which a member may be eligible to receive, according to an announcement made by Medical Mutual's President Raymond M. Yow MD at a press conference on October 12, 1989.

Dr. Yow also announced that the maximum charge for the Rate Stabilization Reserve Fund for all policies will be 15% as of January 1, 1990. This is down from the current maximum of 24% of premium.

Both the special dividend credit and the reduction in Rate Stabilization Reserve Fund are the direct result of the cumulative effects of tort reform and insurance legislation enacted by the General Assembly over the last several years. Medical Mutual is pleased to pass this financial relief along to its members.

AMA Awards Governor Schaefer

On October 3,1989, Maryland Governor William Donald Schaefer became one of the first recipients of the AMA's Dr. Nathan Davis Awards for Outstanding Public Service. Governor Schaefer was selected for his outstanding contributions in promoting the art and science of medicine and the betterment of public health in Maryland.



Angelo J. Troisi, FACHE
Executive Director

To effectively meet your needs as a Maryland physician, Med Chi must maintain an extensive framework of committees to uphold prior commitments, manage current programs, and formulate new policy. It is essential that these committees be comprised of interested members so that Med Chi will remain a strong, viable, and active organization.

Please indicate your willingness to serve by checking your committee preference and special interests on the reply card. Every effort will be made to appoint you to the committee of your choice.

I intend to appoint as many members as possible to committees to insure Med Chi's continued growth as the leading voice for medicine in Maryland.

Thank you for your support.

Reynaldo L. Lee-Llacer MD
President-elect

I am interesting in serving on the following Med Chi committees:

- ☐ Committee on AIDS
- ☐ Committee on Alcoholism and Chemical Dependency
- ☐ Committee on Computers in Medicine
- ☐ Committee on Continuing Medical Education Review
- ☐ Committee on Drugs
- ☐ Editorial Board *Maryland Medical Journal*
- ☐ Committee on Emergency Medical Services
- ☐ Finance Committee
- ☐ Committee on Hospital Medical Staffs
- ☐ Med Chi Insurance Fund
- ☐ Legislative Committee
- ☐ Liaison Committee with Medical Assistance Program
- ☐ Library and History Committee
- ☐ Long Term Care and Geriatrics Committee
- ☐ Committee on Managed Care and Third-Party Liaison
- ☐ Other Interests_____
- ☐ Medicine and Religion Committee
- ☐ Medicolegal Committee
- ☐ Committee on Mental Health
- ☐ Occupational Health Committee
- ☐ Peer Review Committee
- ☐ Physician\Patient Relations Committee
- ☐ Committee on Physician Rehabilitation
- ☐ Committee on Professional Ethics
- ☐ PRO Monitoring Committee
- ☐ Committee on Public Health
- ☐ Public Relations Committee
- ☐ Committee on Small Area Practice Variations
- ☐ Committee on Specialist Identification
- ☐ Committee on Specialty Societies
- ☐ Committee on Young Physicians

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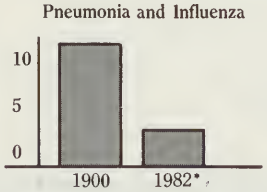
Center for Health Education, Inc.

The Center for Health Education, Inc., a non-profit organization, was established on April 12, 1982 to be a resource to physicians in enhancing their disease prevention and educational skills. CHE originated as a joint venture of the Medical and Chirurgical Faculty of the State of Maryland (Med-Chi, the State Medical Society) and Blue Cross and Blue Shield of Maryland.

The concept for CHE began with Med-Chi physicians who recognize that traditionally, medical education does not emphasize the skills physicians need to successfully educate their patients. This concept was supported by Blue Cross and Blue Shield of Maryland, which acknowledges that successful patient education can have a positive impact on the utilization of health services.

Physicians and Disease Prevention

Physicians have been in the forefront of influencing the dramatic decline in premature deaths caused by infectious diseases.



Physicians can be just as effective today. Perceived by the public as the best and most reliable source of health messages, physicians can have a substantial impact on those lifestyle behaviors which, more so than ever before, significantly contribute to the causes of avoidable morbidity and premature mortality such as heart disease and cancer.



In addition, the physicians are in a position to personalize their advice for the individual patient, as well as reinforce those recommendations over time.

Source: National Center for Health Statistics.

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- fewer complaints about medical care

Functions

RESEARCH: Assess physicians' needs in disease prevention and health promotion, their current practices and the obstacles they encounter in the educational process.

DEVELOPMENT: Design physician educational materials and programs to increase physicians' awareness, skills and expertise in patient education.

IMPLEMENTATION: Disseminate materials and conduct Continuing Medical Education programs to assist physicians in educating patients.

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CHE has been found to meet the Essentials of Accreditation necessary to grant Continuing Medical Education credits for the American Medical Association's Physician Recognition Award.

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Perspectives on Genetic Disorders

Carmine M. Valente PhD and Albert M. Antlitz MD

The authors, respectively Executive Director and Chairman, Board of Directors, of the Center for Health Education, Inc., acted as guest editors for this issue.

In the past few decades new genetic discoveries and technologies have been applied to medical practice. Once considered an academic-oriented domain, genetics now encompass the spectrum of medicine. The province of genetics is not confined to a few rare diseases or to congenital disorders. Many genetic disorders present in childhood; others may not be apparent until adulthood.

While recent genetic advances have been astonishing, the implication for greater physician involvement in the education, treatment, and care of individuals with genetic disorders is equally remarkable. More and more primary care physicians will be called on to provide care for patients with genetic disorders as well as their families.

The new genetic advances raise a host of ethical considerations for the medical profession. Issues relating to informed consent, confidentiality and disclosure, and the physician-patient relationship are becoming increasingly difficult to address. In fact, there is little consensus on these issues.

Advances in genetic research require financial support. We highlight the role the March of Dimes Foundation has played in the field with a brief review of its contributions to the understanding of genetic disorders by Beverly Raff PhD.

The articles beginning on page 901 represent a broad range of thought about genetics. The lead article by the internationally distinguished geneticist Victor A. McKusick MD provides the historical perspective on genetic disorders. Dr. McKusick is responsible for cataloging all genetic disorders known to man. He describes the development of the eight editions of *Mendelian Inheritance in Man* and traces that development from the print to computer form. He also discusses the evolution of genetics as a subspecialty in medicine.

In the next article, Nancy E. Maestri PhD and Joann A. Boughman PhD summarize the trends in population genetics and review the Baltimore-Washington Infant Study (BWIS), which is currently investigating etiologic factors in congenital heart disease.

Miriam G. Blitzer PhD and colleagues follow with the article on recent advances in genetics. Their article provides a review of some of the recent advances made in molecular genetics, biochemical genetics, and cytogenetics.

An article by Susan R. Panny MD and Barbara A. Bernhardt MS describes the availability of genetic services in Maryland. Information on genetic centers, support groups, and cost of genetic services also is provided.

Gaps in genetic services is the subject of the next article. Rita Beck Black DSW and Joan O. Weiss ACSW highlight findings from a national survey of genetic support groups. Initiatives to improve genetic service are discussed.

The next three articles involve various issues relating to the assessment of genetic disorders. C. Lynn Keene MD and Devereux N. Saller, Jr., MD provide information about prenatal genetic concerns. In their review they discuss family history analysis, prenatal ultrasonography, and concerns of advanced maternal age, among other issues. R. Stephen Amato MD identifies the common genetic problems

in children and addresses several misconceptions about genetic conditions. Reed E. Pyeritz MD reviews the common genetic disorders in adults and also dispels some of the misperceptions associated with genetic disorders of adulthood.

Barbara A. Bernhardt MS in her article on counseling and patient education states that "advances in the science of genetics will result in increased need for counseling services and more reliance on the primary care provider as a resource for genetic information." She reviews the process of genetic counseling and discusses barriers to effective counseling.

The concluding article by Robert Wachbroit PhD on the moral problem of who is the patient raises a number of ethical questions associated with the recent advances in genetics.

■ ■ ■

We thank the authors for their contributions and the March of Dimes Birth Defects Foundation for its interest and support in planning and preparing this issue. A special thanks to C. Lynn Keene MD, Assistant Professor of Obstetrics and Gynecology, Divisions of Maternal-Fetal Medicine and Human Genetics, University of Maryland Hospital, for serving as a consultant.

These articles may not necessarily reflect the opinion of the Center for Health Education, Inc. or the March of Dimes Birth Defects Foundation. ■

CHE

The Center for Health Education, Inc. was established to assist physicians in enhancing their disease prevention and education skills.

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Support of Genetic Disorders

Beverly S. Raff PhD

The author is Vice-president, Professional Education, March of Dimes Birth Defects Foundation, White Plains, NY (914-428-7100).

In its mission to prevent birth defects, the March of Dimes Birth Defects Foundations's involvement in genetics includes research, education, health services, and advocacy. Its commitment to support research is perhaps best exemplified by the contributions of Dr. James Watson. Dr. Watson, a member of the team that discovered the double helix structure of the DNA molecule, was supported by a March of Dimes (MOD) fellowship when he collaborated on that Nobel Prize winning achievement.

But victories in the research laboratory can save lives only when provision is made to translate them into practice, making treatment and prevention realities. In all its research involvement, the MOD has consistently helped bridge the gap between research success and effective, accessible medical service.

Support also is provided for a variety of health service programs, including carrier testing for female relatives of males with hemophilia and DNA-based diagnosis for sickle cell anemia. The MOD is a vigorous advocate for government support of and insurance reimbursement for genetic services, as well as advocating for the extension of the National Genetics Diseases Act.

The MOD supports the National Organization for Rare Disorders (NORD) and the Alliance of Genetic Support Groups. (NORD helps individuals and families affected with rare disorders, and the Alliance is a coalition of consumers and professionals representing those affected with genetic disorders.) Recently, NORD has expanded its rare disease database, which now provides information to more than 1,300 people each month.

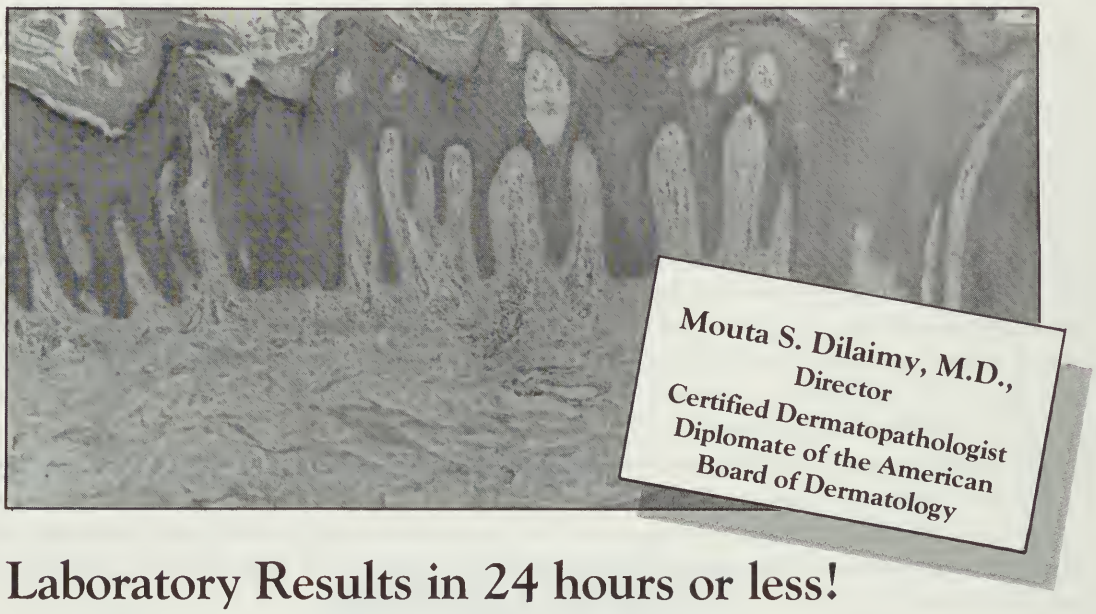
The MOD has witnessed the expansion of the number of genetic services centers throughout the country from 10 to 100. It also provides support for national and international genetic conferences.

Last year, on its 50th anniversary, the MOD announced that one of its two new objectives will be to focus more attention on research to develop gene therapy. Currently, about 10 percent of its research grant money is related to gene therapy. The MOD will continue its work, supporting and maintaining the efforts that will lead to healthy births for all babies.

For additional information about the March of Dimes, call the Baltimore chapter at 301-752-7990 or the Washington, DC chapter at 202-872-0967. ■

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Historical Perspectives: The Understanding and Management of Genetic Disorders

Victor A. McKusick MD

Dr. McKusick is University Professor of Medical Genetics, The Johns Hopkins University School of Medicine, Baltimore.

In the last 30 years clinical genetics has become a defined specialty, and at the same time, genetics has been incorporated into the warp and woof of clinical medicine, every aspect and every specialty being involved.

Great advances have been made in the understanding and management of genetic disorders over the last 30 years. One can perceive those advances by reviewing the evolution of my gene encyclopedia *Mendelian Inheritance in Man* (MIM) from its conception in 1960. Going through eight print editions[1] and achieving in August 1987 worldwide online electronic accessibility, the "catalogs" record the development of the field of medical genetics during this period of greatest expansion.

Studying Human Chromosomes as a Clinical Procedure

The specialty of medical genetics really developed during the last 30 years. In 1959 the first chromosome abnormalities underlying clinical disorders (Down syndrome, Turner syndrome, Klinefelter syndrome) were identified. The ability to study the chromosomes under the microscope with relative ease was a major impetus for the development of medical genetics as a clinical specialty. It gave the clinical geneticist his (or her) organ; just as the cardiologist had the heart, the neurologist the nervous system, the gastroenterologist the GI tract, the clinical geneticist had the genome. Indeed, the ability to study the human chromosomes and to map the genes on the chromosomes represents the "new anatomy," and the information coming from it has provided a neo-Vesalian basis for all of clinical medicine, not just for clinical genetics.[2]

The catalogs do not discuss specifically the relatively gross chromosomal abnormalities represented by disorders such as Down syndrome, nor do they discuss specifically multifactorial disorders such as common malformations, hypertension, and coronary artery disease. However, especially in recent years, these topics also have been touched on by the catalogs as specific genes responsible for the phenotypic features of chromosomal aberrations have been identified, as minor chromosome abnormalities such as deletions of single bands have been identified in "Mendelizing" disorders, and as individual genes of significance in the causation of polygenic (multifactorial) disorders have been sorted out.

Thus, although one will not find in MIM the detailed charac-

teristics of the cri du chat syndrome or of trisomy 13, one will find oblique references to both these and other chromosomal aberrations in discussions of the genes that are located in those areas of the genome involved by the aberrations. Similarly, in multifactorial disorders, such as cleft lip/palate and coronary artery disease, one will find a discussion of multifactorial inheritance as a background for discussion of those single-gene mutations that have been identified as contributing to causation.

Early Days of the Catalogs

Although in recent years MIM has evolved into an encyclopedia of genes, it began in 1960 as a catalog of Mendelizing *phenotypes*, disorders and "normal" traits that show simple Mendelian pedigree patterns. Indeed, almost the only way we had in 1960 for identifying genes was through the behavior of phenotypes in families.

When the first print edition was published in 1966, the information was divided into three catalogs according to mode of inheritance: autosomal dominant, autosomal recessive, and X-linked. Within each category of inheritance individual phenotypes were given separate entries, which were alphabetized according to a preferred designation and then assigned a sequential four-digit number beginning with 1001 for the autosomal dominants, 2001 for the autosomal recessives, and 3001 for the X-linked traits.

The first of the catalogs to be assembled was the X-linked catalog, published separately in 1962.[3] Collection started in 1960 when I was studying the X chromosome intensively. The question was: What genetic information is carried by the X chromosome? A partial answer to this question is provided by a list of all the diseases that are X-linked; there were 68 definite and 51 possible X-linked traits listed in the 1966 edition. The list of X-linked disorders was like a photographic negative from which a positive picture of the genetic constitution of the X chromosome could be made. The fact that two forms of hemophilia were known to be X-linked indicated, for example, that at least two genes coding for factors important to coagulation are located on the X chromosome.

In late 1962, I began studies of the Old Order Amish,[4] a group in which, because of inbreeding, I expected to find autosomal recessive disorders. Indeed, we expected to be able to characterize "new" recessive disorders. To recognize the new ones, one needed to know the old ones. Therefore, I undertook a comprehensive catalog of autosomal recessive traits. In early 1964, for sake of completeness, I initiated a catalog of autosomal dominants, this with some hesitation because of the readiness with which the label, "autosomal dominant with reduced penetrance and variable expression," was placed on a host of characteristics. The problem was aided, however, by the creation of two classes of citizens in each catalog: those in which a particular mode of inheritance seemed well established were honored with an asterisk, whereas those of more uncertain status were left without an asterisk, although they were included for heuristic reasons.

Computerization

In 1964 at the urging and with the assistance of David Bolling, the catalogs were computerized. A great virtue of the computer was that new errors were not introduced each time the catalogs were retyped to accommodate additions and revisions. Furthermore, the computer was useful in creating the author and subject indexes and in preparing camera copy for publication, for example, right margin justification.

The catalogs have appeared in eight editions: 1966, 1968, 1971, 1975, 1978, 1983, 1986, and 1988. As shown in Figure 1, the number of entries has gone from 1,487 (in the first edition) to 4,344 (in the eighth edition) and to more than 4,800 (in the continuously updated, online version, OMIM). The publication schedule for the foreseeable future follows the pattern established with the seventh and eighth editions of 1986 and 1988, that is, every other year in even-numbered years. The computer file is closed March 1 of the year of publication, and books are available July 1, a useful feature in this rapidly moving field.

Publication has been computer based from the beginning; MIM was a pioneer in computer publication. The first three editions were photo-offset, using camera copy generated by the printer attachment of the computer; they were all "uppercase." Beginning with the fourth edition (1975), we have used the electronic medium for what amounts to automatic typesetting. This results in standard type style and in economy of page space, a significant factor because of the expanding information. Thus the fourth edition is smaller than the preceding edition because of the economy of space. With the eighth edition we went to 8 1/2 by 11 page size, double columns, and bible paper

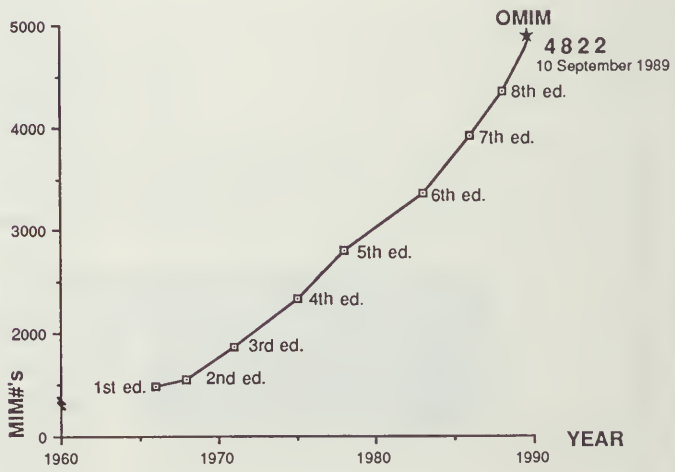


Figure 1. Growth of Number of Entries in MIM

to accommodate the increased volume of information. It will be possible to keep MIM within the bounds of a single volume for probably only one more biennial edition.

The value of computerization to the maintenance of the encyclopedia is evident from several points of view. The author index lists over 50,000 separate authors; the total number of references is in excess of 32,000. The foreword and appendices, such as the Human Gene Map and the list of Molecular Defects in Mendelian disorders, were done by computer-based photocomposition for the first time with the eighth edition; they had been set in type previously. Think of the help that the computer would have been to Sir James Murray (1837-1915) who spent 35 years writing out the definitions of words beginning with each of 16 letters, for the Oxford English Dictionary! Sometimes I feel like Murray; Diderot and the other French encyclopedists may be closer parallels.

Since August 1987, MIM in its continuously updated form has been available worldwide from the Welch Medical Library at Johns Hopkins via the Telenet public data network and Internet. Information on access to the online version, called MIM, is available from Bonnie L. Maidak PhD, Welch Medical Library, Baltimore, MD 21205 (301-955-9656).

The online version of MIM has the obvious advantage of timeliness; material added today in Baltimore (and the file is updated daily) is available tomorrow worldwide. The second advantage comes from the search routine called IRx developed on an experimental basis by the group at the National Library of Medicine working with MIM as a "testbed." The database is sufficiently large that an ordinary print index cannot suffice. With IRx, one can type in a given word or combination of words (in a boolean arrangement, for example) or a given surname, and almost instantaneously the computer screen will display a list of all those entries in which the word, combination of words, or surname appears. Individual entries then can be searched. IRx can be used, for example, for differential diagnosis; if one puts in a list of signs and symptoms, OMIM will give a list of conditions displaying those features.

Map of Genes

A function of *Mendelian Inheritance in Man* has been maintenance of information on the human gene map. The linear arrangement of genes on our chromosomes is part of our anatomy. The information is referred to as "the human gene map," a cartographic metaphor, but an anatomic metaphor would be equally appropriate. The growth of this information over the last 21 years is shown in Figure 2. By 1968 when the first gene, that for a blood group (Duffy), was mapped to a specific autosome (nonsex chromosome),[5] we knew at least 68 genes were on the X chromosome. Since then the mapping of genes has progressed at an ever-accelerating pace, thanks to the development of new

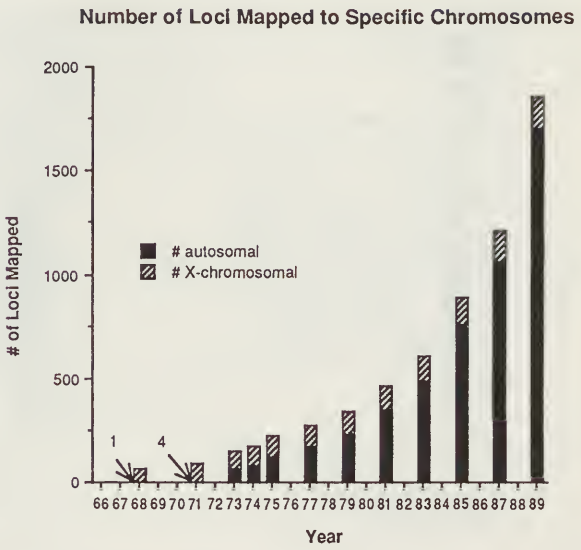


Figure 2. Growth of Information on the Human Gene Map

cellular and molecular (recombinant DNA) methods of study. Today we know the chromosomal location of over 1,800 genes, although we have a long way to go to complete the mapping of all 50,000 or more genes the human is thought to carry in each nucleated cell of the body.

The third (1971) edition of MIM was the first one to give information on the human gene map. One printed page sufficed for the information, some of which is now known to have been in error. In the eighth (1988) edition, 78 closely printed pages were required for the information (which we believe is for the most part secure).

A "morbid map," or pictorial representation of the "morbid anatomy of the human genome,"[2] can be derived from the map information. Many diseases such as cystic fibrosis and Huntington disease have been mapped to specific chromosome sites (rather, the gene carrying the mutation that causes each has been mapped) by finding linkage to markers of known locations. In many other instances such as Tay-Sachs disease, we know the location of the disease-producing mutation because the normal (wildtype) gene has been mapped. Figures 3 and 4 present maps of chromosomes 4 and 7, respectively.

Gene mapping has become of significance to all aspects of medicine because it opens the possibilities of diagnosis by specific gene methods and of elucidating the nature of puzzling disorders such as Alzheimer disease, Huntington disease and cystic fibrosis by going directly to the gene, finding what it normally does, and finding out what is "wrong" with the gene in the mutant form that produces disease (Figure 5). This last process is referred to as "reverse genetics."

As I write, articles are appearing in *Science* announcing the discovery of the cystic fibrosis gene (CF).[6-8] This was made possible by first mapping the gene to

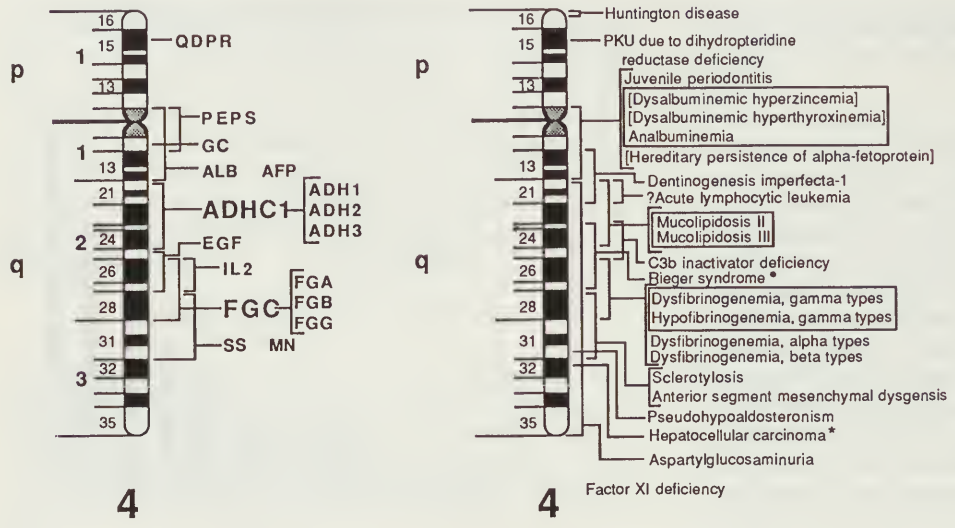


Figure 3. Chromosome 4

A. Location of selected genes of interest, including: EGFR = epidermal growth factor receptor; EPO = erythropoietin; COL1A2 = alpha-2 collagen; MET = oncogene MET; TCRB and TCRG = beta and gamma subunits of T-cell antigen receptor.

B. The morbid anatomy of chromosome 7. The disorders in the box are allelic, i.e., are caused by different mutations in the gene coding for the alpha-2 polypeptide of type I collagen.

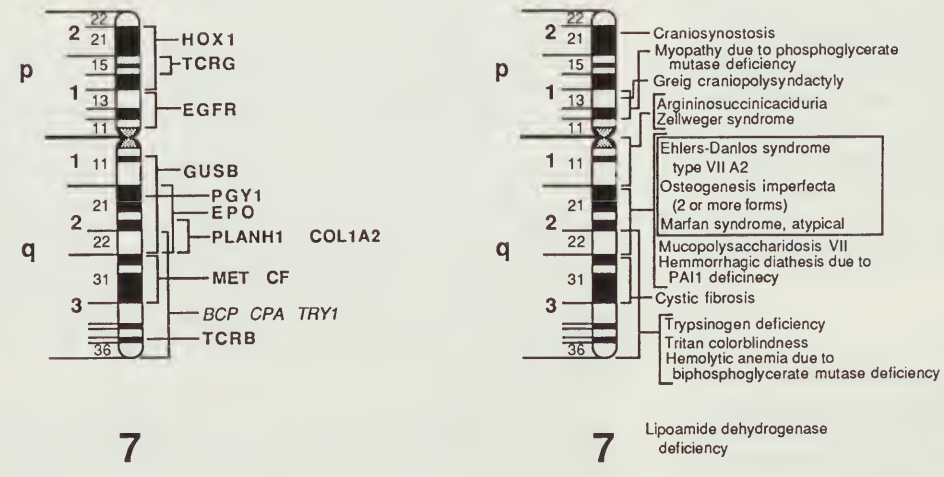


Figure 4. Chromosome 7

A. Location of selected genes of interest including: GC = vitamin-D binding protein; ALB = serum albumin; AFP = alpha-fetoprotein; ADH = alcohol dehydrogenase (3 clustered genes); EGF = epidermal growth factor; IL2 = interleukin 2; FG = fibrinogen (3 clustered genes); SS and MN = MNSs blood group(s).

B. The morbid anatomy of chromosome 4. The disorders enclosed in boxes represent allelic phenotypes, i.e., disorders due to different mutations in the same gene. Brackets indicate a "nondisease."

the long arm of chromosome 7 (7q) by the finding of chromosome 7 markers that are closely linked and then "walking" and "jumping" along chromosome 7 until a segment of DNA answering to the expected characteristics of the CF gene was encountered. It turns out that the CF gene is a big one (at least 150 times bigger than the biggest hemoglobin gene) and about 70 percent of CF patients have a well-pinpointed lesion, like that in sickle cell anemia; a single amino acid (No. 508, phenylalanine) has been deleted in the mutation that leads to CF. This discovery is a particular triumph for "reverse genetics" based on gene mapping.[2] The genes for Duchenne muscular dystrophy, retinoblastoma, and chronic granulo-matous diseases also have been isolated by first mapping the genes to specific chromosomal sites and then searching them out, but in all these instances patients with microscopically visible deletions or rearrangements of the particular chromosome were available. Cloning the genes was, relatively speaking, easier under these circumstances; it was much more difficult when the mutation involved a single amino acid in the product protein. It was like looking for a needle in a haystack; only three out of three billion nucleotides were deleted.

Fundamental Biochemical Defects in Genetic Disorders

Another function of *Mendelian Inheritance in Man* is maintenance of a list of molecular defects in Mendelian disorders. In any genetic disorder it is desirable to know the basic biochemical defect, that is, what enzyme is deficient or defective or what other protein is altered. This information is now available for about 430 Mendelian dis-

orders. This list correlates with the "morbid map" because information on the biochemical defect tells us a given disease maps to the site that has been determined for the normal gene coding a particular enzyme or other protein. The list includes information also on the intragenic lesion (the precise nature of the gene mutation) when known.

The Human Gene Map and the list of Molecular Defects in Mendelian Disorders are totally integrated with the main file of OMIM just as they are appendices to the print version of MIM. If one is reading about a given disorder, let us say von Recklinghausen neurofibromatosis (NF1), one can ask, Has this gene locus been mapped? By pressing the "M" on the keyboard, instantaneously the portion of the map dealing with the proximal part of the long arm of chromosome 17 appears on the screen with an arrow indicating the position of the NF1 locus. Alternatively, if the locus has not been mapped, the questioner is so informed. One can ask what other genes are on the long arm of chromosome 17.

Similarly, by pressing "Z" on the keyboard, one can ask, Has the molecular defect in this disorder been identified? If the defect is known, as in a condition such as Duchenne muscular dystrophy or hemophilia A, the relevant part of the molecular defects list appears on the screen. If one is reading about a given enzyme or other protein, such as adenosine deaminase, one can ask, Has a disorder been related to a deficiency or defect of this protein? In the example cited, OMIM would tell the inquirer that severe combined immunodeficiency results from mutation in this gene.

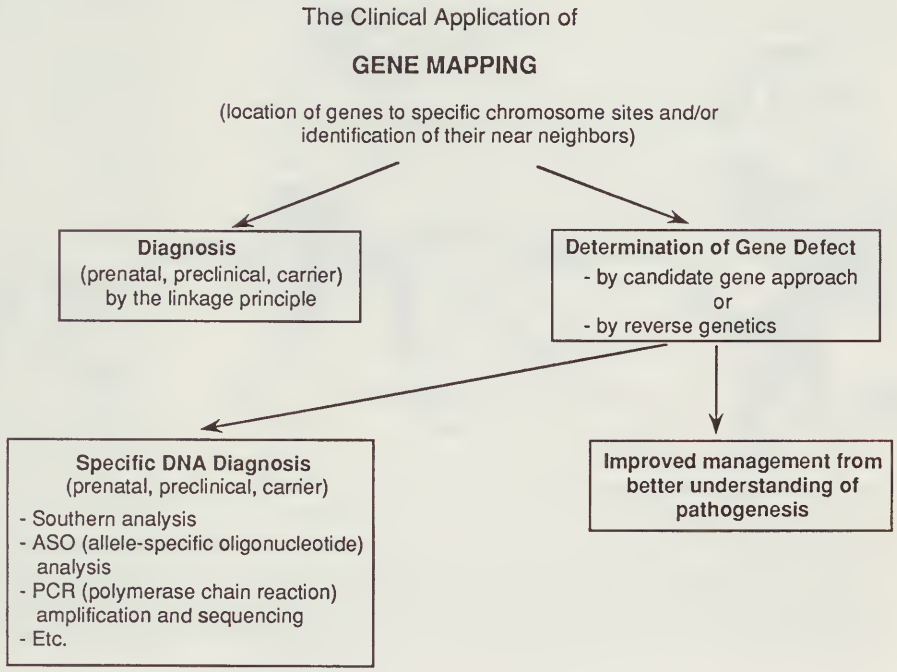


Figure 5. Why Map Genes?

Organization

The numbering system for entries in MIM used four digits for the first two editions. Entries in the first edition were numbered consecutively, the fundamental organization being according to alphabetical order in each of the three catalogs; as previously stated the initial digit in the autosomal dominant, autosomal recessive and X-linked catalogs was 1, 2, and 3, respectively. With the second edition, a renumbering was done when we went to press; thus, the numbers of many disorders were changed. With the third edition, we took steps to achieve a relative permanence of the MIM numbers by adding a zero to the four-digit number used in the second edition; we thus achieved a considerable number of new entry numbers for assignment. This system has sufficed until recently; we are shortly adding a zero to all entry numbers, thus going to a six-digit system.

Each entry in MIM is given a preferred title for the particular locus or phenotype coded at that locus – at least the designation that was preferred at the time the entry was created. In parentheses after the preferred title are synonyms, gene symbols, and inclusive terms, for example, the names of diseases determined by mutations at that locus in cases in which the primary designation is the gene product. If the originally preferred designation falls from favor, it is usually retained unless there is some exceedingly compelling reason to change to a new designation; this is to preserve the unique numbering system, the rationalization being that the provision of synonyms will suffice for finding the given entry through either the index of the print version or the IRx search of OMIM.

The title is followed by text based on information from the literature, information from my personal experience, and information obtained by personal communication from colleagues – mainly information from the periodical literature. Material we have considered important for the write-up includes description of the phenotype (the disorder); evidence for the particular mode of inheritance and description of peculiarities in the genetics; the formal genetics in terms of genetic mapping, gene frequencies, selection, and ethnic distribution; information on the nature of the basic defect and pathogenetic mechanisms; and finally management, especially when the treatment is

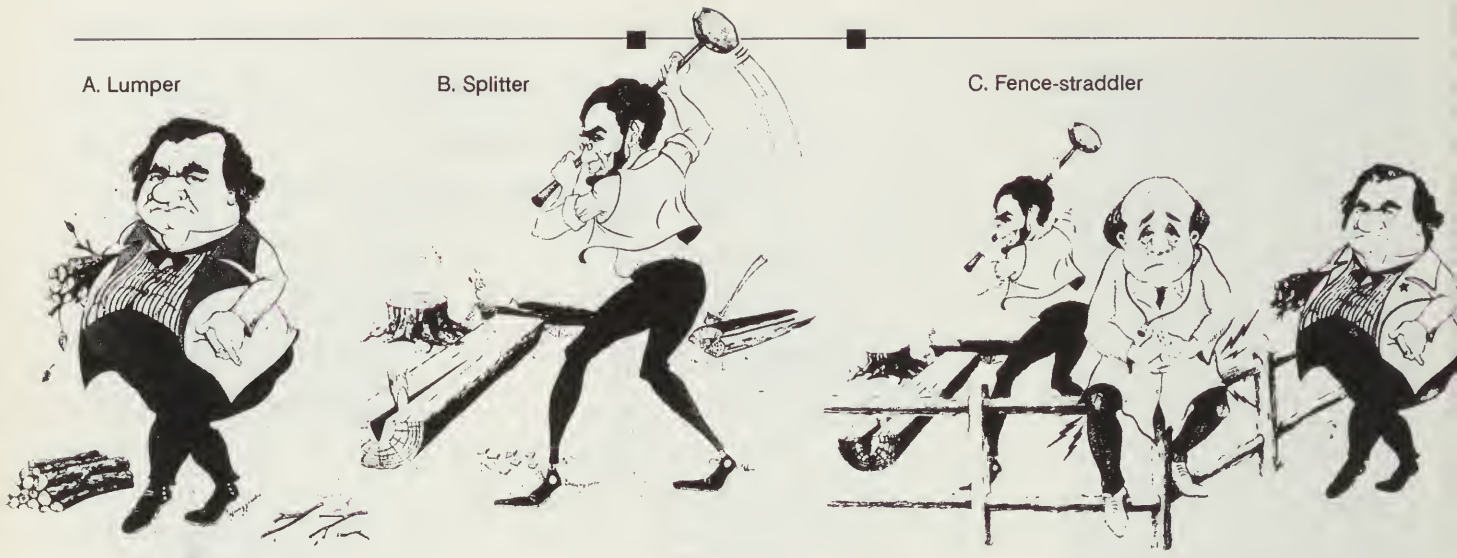


Figure 6. The Three Nosologists

The cartoons illustrate that splitting is harder work than lumping. They also illustrate that fence-straddling is uncomfortable but sometimes necessary. Based on the well-known cartoons shown in A and B, J.M. Opitz and R.B. Lowry referred to the controversy between splitting and lumping as "Lincoln vs. Douglas Again" (Editorial, Am J Med Genet 1987;26:69-71). (Cartoon C, courtesy of C.E. Jackson, Detroit.)

based rather specifically on the gene-determined pathophysiologic changes, for example, dietary therapy in PKU. Matters of genetic counseling, often implicit in the other material included, are explicitly discussed when warranted by published studies.

For the most part, the text of the entries is organized chronologically. In most cases, no systematic effort has been made to put together the information on mapping, for example, which might come from papers spanning two decades or more. Some entries have become moderately unwieldy, and paragraphing has been undertaken. But most of the entries have been left as they have accumulated over the years, with new accessions being added at the end of the previously existing text. Whatever the disadvantages, the system has the advantage of showing the historical development of knowledge in the field.

For the first 20 years or more, MIM entries were created exclusively on the basis of delineation of phenotype; this is the only way we had to identify genes. The phenotype might include a biochemical phenotype such as deficiency or alteration in a protein, enzymatic or otherwise, but not until recently has it been possible to create entries on the basis of genes themselves. In the last few years, genes encoding specific proteins have been cloned by working back from the messenger RNA, that is, creating a so-called cDNA (complementary DNA). As a result, the genes have been sequenced and even mapped to a specific chromosomal site before there is knowledge of any Mendelizing phenotypic variation at the locus. If MIM purports to be a gene encyclopedia, such entries deserve to be in it.

Some genes uncovered by cell biology and molecular genetics are ones we had no inkling of 30 years ago; for example, oncogenes, the genes that normally have important functions in development and differentiation but when mutated cause cancer. Indeed, mapping genes has brought forcefully to attention the fact that *all neoplasia is genetic disease*. For uncontrolled growth of cells to develop, change in DNA (the genes) must occur. Small cell cancer of the lung is a striking example. This neoplasm, which represents about one-fourth of lung cancer, is as intimately related to cigarettes as any other form of lung cancer, but the fundamental "cause" is a change in gene(s) on the short arm of chromosome 3 (3p), which appears to be a necessary, even though perhaps not sufficient, event in this particular carcinogenesis.

Lumping and Splitting

Identification of genetic heterogeneity has played a big role in the creation of the catalogs. As I have pointed out in the past,[9] nosologists tend to be either splitters or lumpers (Figures 6A and B) or sometimes fence straddlers (Figure 6C). By and large, medical geneticists must be splitters because the rule is that when a given phenotype, such as muscular dystrophy, mental retardation, retinitis pigmentosa, or congenital deafness, is subjected to close scrutiny, one finds that in fact one is dealing with a number of distinct entities. The increase in the number of entries represented by the graph in Figure 1, represents not so much the identification of new major phenotypes but rather the identification of different causes of the same phenotype. The delineation of genetic heterogeneity was aided greatly by advances in biochemical genetics that identified different enzyme defects, for example, in inborn errors of metabolism that clinically seem roughly the same.

However, there also has been a "lumping" process

going on in recent years, when it is found that two or more seemingly quite unrelated phenotypic entities in MIM are due to alleles of one and the same gene. Thus, we had separate entities for a number of forms of amyloid polyneuropathy, such as the Portuguese (or Andrade) type and the Indiana (or Rukavina) type, but these turned out to be different mutations in the gene that codes for prealbumin (also called transthyretin because it is the major carrier protein for thyroxine). Following the principle of one locus – one entry, these several forms of amyloid polyneuropathy have been moved together, but we have adopted a system of giving each clinical type a separate paragraph within the prealbumin entry.

Prealbumin illustrates another aspect of lumping. An entry was created for the prealbumin protein on the basis of rare variations in the protein that alter its binding of thyroxine to result in familial euthyroidal hyperthyroxinemia. Later, the prealbumin gene was cloned, sequenced, and mapped to chromosome 18 and this, too, was a legitimate basis for an entry in MIM. In OMIM presently (and this will be the case in the ninth printing) a single entry with the lead-off designation PREALBUMIN encompasses information previously scattered through five or six separate entries.

An earlier example of lumping came with the hemolytic anemias due to specific red cell enzymopathies. Entries might be created on the basis of discovery of an electrophoretic polymorphism of a red cell enzyme in clinically normal individuals. Deficiency of the same enzyme might later be identified as the cause of hemolytic anemia and receive a separate entry if it were not appreciated that these were one and the same gene locus, that is, several phenotypes, "normal" and pathologic, resulting from alleles.

It might be said that in assembling the catalogs, we take thirty steps forward and one step backward. By that I mean that for each thirty new entries created through the process of phenotype-splitting (or gene cloning), one is deleted (usually folded into another entry because it is found to relate to a previously existing entry).

Cataloging Mutational Lesions within Genes

As molecular genetics has probed more deeply into the nature of the lesions in the genes underlying particular disease phenotypes such as hemophilia and muscular dystrophy, it turns out there are many different lesions within the gene that can result in the same or a very similar phenotype, for example, many different lesions of the Factor VIII gene that result in hemophilia A. The lesion may be as small as a single nucleotide change or as large as deletion of the entire gene. Keeping track of the different allelic mutations responsible for a particular disorder is acquiring practical significance as well as a substantial theoretical importance. One reason is that specific gene diagnosis usually depends on the nature of the particular DNA lesion. This can vary widely from case to case. For example, over 70 different lesions of the beta-globin gene can lead to beta-thalassemia (H. Kazazian, personal communication). Storage of this information as it accumulates is a function of OMIM, as part of the list of Molecular Defects in Mendelian disorders.

Catalog of Phenotypes vs. Catalog of Genes

To this point we have learned that some disorders can be produced by two or more separate gene loci and, conversely, that two or more very disparate disorders may be caused by different mutations at the same locus.[2] As illustrated by Figure 7, in the cases of hemoglobin and type I collagen (to cite two examples), one sees a combination of these two principles. The alpha and beta loci encoding the two kinds of subunits of adult hemoglobin are located on chromosomes 16 and 11, respectively; and the alpha-1 and alpha-2 loci encoding subunits of type I collagen are located on chromosomes 17 and 7, respectively. Mutations at either one of the two collagen loci may cause any one of several types of osteogenesis imperfecta or of Ehlers-Danlos syndrome, and different mutations at either of the two beta-globin loci can cause thalassemia, Heinz body anemia, polycythemia or methemoglobinemia. To maintain the integrity of the one gene locus – one MIM entry rule, it is necessary to make the gene locus, not the disorder, the primary designation. In some cases, where there is considerable phenotypic and genetic information about a particular form of osteogenesis imperfecta or Ehlers-Danlos syndrome,

	Heinz body hemolytic anemia	Thalassemia	Erythremia	Methemoglobinemia
HBA	e.g., Hb Toyama Hb King County	α - thalassemias Mainly deletion types	e.g., Hb Chesapeake	HbM (several types) e.g., HbM (Boston) HbM (Kankakee)
HBB	e.g., Hb Köln Hb Hammersmith Hb Bristol	β - thalassemias Deletion and non-deletion types	e.g., Hb Osler	HbM (several types) e.g., HbM (Saskatoon)

Figure 7. Hemoglobinopathies

Any one of at least four different types of disorders can result from mutations in either of the genes coding for subunits of adult hemoglobin. (On the other hand, sickle cell anemia is the result exclusively of a change in the beta chain.) HBA = gene for alpha chain of adult hemoglobin; HBB = gene for beta chain of adult hemoglobin.

for example, a separate entry (without an asterisk) may be retained, even though we recognize that mutations at any one of two or more loci may cause the particular disorder. We must depend on the indices (print and computerized IRx) to find phenotypes desired. In clinical medicine it is, of course, the phenotype that is of primary interest.

New entries, created on the basis of cloned genes for which no Mendelizing phenotype has been yet identified, have been placed arbitrarily in the dominant catalog. The continuation of the system of putting all allelic mutation at a given locus in the same entry, regardless of whether the phenotype is dominant or recessive, may create trouble for those who do not read the information carefully. Some people were confused by the fact that sickle cell anemia was discussed in the dominant catalog (under the beta-globin gene) rather than in the recessive catalog. In the fullness of time, the print version of MIM can be expected to fill many volumes, at least as many as there are chromosomes, and organization by chromosome probably will be the logical system used in the ultimate gene encyclopedia.

The Specialty of Medical Genetics

There are differences in the workup of genetic disorders today as compared with 40 years ago. When I began my work in medical genetics[10] the only specific genetic technique was the construction of the family pedigree chart. Ten years later the study of chromosomes was just coming in, and a very modest array of techniques, for example, starch gel and other forms of electrophoresis, were beginning to permit definition of biochemical defects. Neonatal screening for disorders such as PKU and hypothyroidism (conditions that if caught early can be helped greatly by treatment) was getting under way 30 years ago. Prenatal diagnosis by amniocentesis started about 25 years ago, and prenatal diagnosis by chorion villus sampling was not added until this decade. Gene diagnosis was not part of even our wildest projections 15 years ago.

One can do so much more diagnostically today. Chromosome studies by the banding methods are much more revealing than were earlier methods. "Metabolic screens," that is, batteries of chemical tests on urine and blood, have been devised to detect peculiarities in puzzling cases of possibly genetic disorders. The genetic counselor is thus provided with much firmer grounds on which to base advice.

It is worth tracing the origins of medical genetics as a specialty during these 40 years, but especially since 1959. First, here are some definitions:

Genetics = the science of biologic variation

Human genetics = the science of biologic variation in humans

Medical genetics = the science of biologic variation as it relates to health and disease in humans

Clinical genetics = the science and art related to the diagnosis, prevention, and treatment of genetic disorders in individual patients and their families

It can be argued that medical genetics is a broader concept than human genetics because it encompasses not only all aspects of human genetics but also an enormous body of information related to the many hereditary disorders.

Clinical genetics has become institutionalized as a specialty, with its own board examinations (first given in 1980) and other accoutrements. The American Board of Medical Genetics (under the auspices of the American Society of Human Genetics) is an unusual board in that it certifies the entire clinical genetics team: clinical geneticists (who may be MDs, DOs, or DDSs), PhD medical geneticists, clinical cytogeneticists, clinical biochemical geneticists, and genetic counselors. The board also set standards for training programs.

As recently as 1975, I expressed a view that there is no need for a board of medical genetics.[11] It was my feeling, in part, that medical genetics would be practiced exclusively in medical centers where groups of subspecialists devoted to various aspects of genetic diagnosis and treatment could be concentrated. Such centers, by and large, have other means of maintaining standards not available in the solo practice setting. That genetics cuts across all aspects of medicine was also in my mind. However, a different view prevailed and rightly so, in my present view. I failed to appreciate the extent to which third-party payers, governmental and nongovernmental, need to have certification of the competence of the payee.

I am delighted by the extent to which clinical genetics has become a defined specialty. Furthermore, I am delighted by the extent to which genetics has been incorporated into the warp and woof of clinical medicine, every aspect and every specialty being involved.

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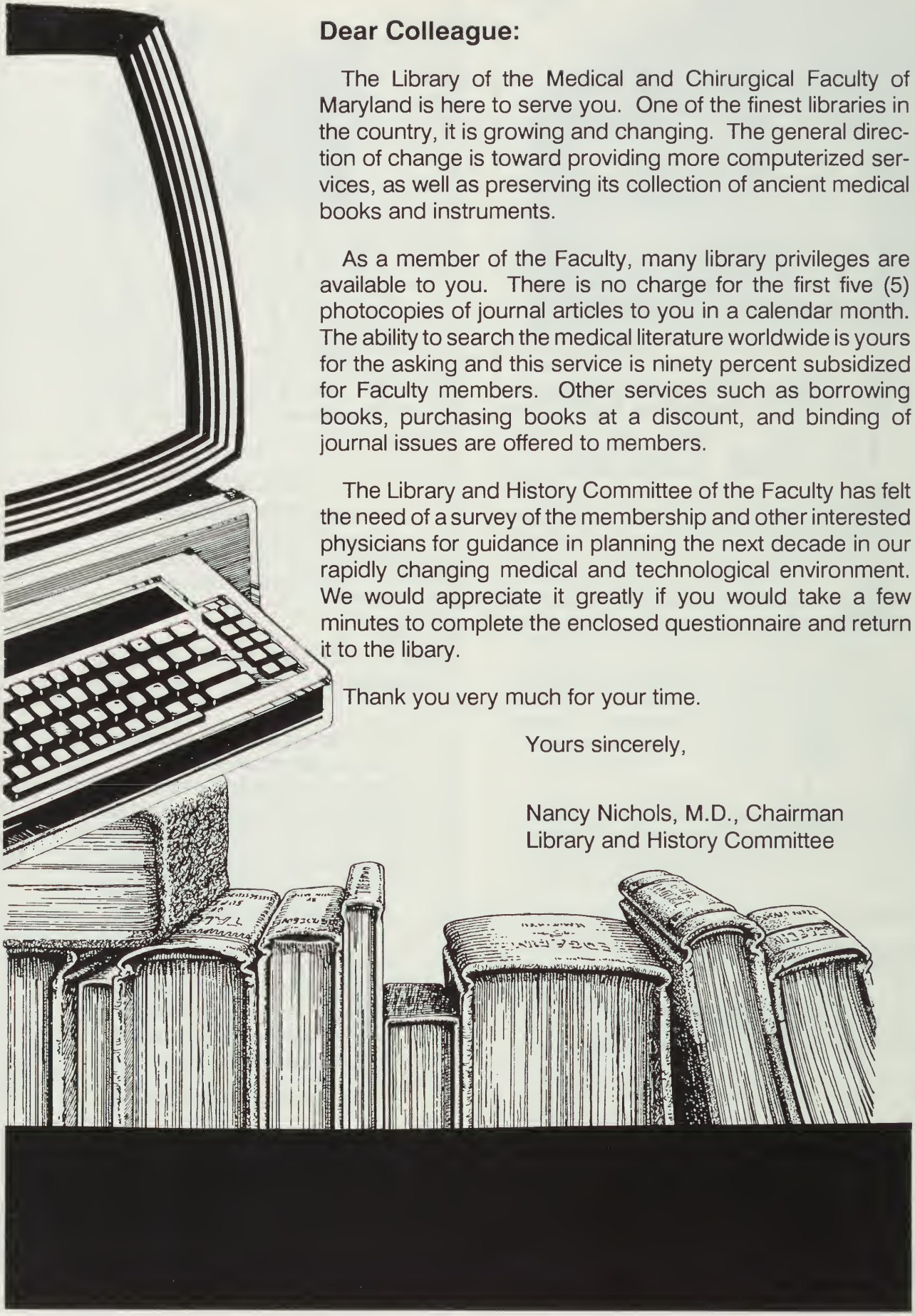
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Demographic and Epidemiological Perspective on Genetic Disorders

Nancy E. Maestri PhD and Joann A. Boughman PhD

Dr. Maestri is a postdoctoral Fellow and Dr. Boughman is Associate Professor, Division of Human Genetics, Departments of Obstetrics and Gynecology and Pediatrics, University of Maryland School of Medicine, Baltimore. *The Baltimore-Washington Study is supported by the National Institutes of Health, National Heart, Lung, and Blood Institute, Grant #R37IIL25629.*

The study of genetic disorders from the demographic and epidemiologic perspective focuses on the evaluation of the frequencies and the issues of heterogeneity and variability of these disorders among populations. The explanation of genetic etiologies has become more complicated than the original description of the inheritance of the classical dominant, recessive, and x-linked disease.

Characteristic differences in gene frequencies between populations composed of varying racial and ethnic groups are well established. It is now understood that genetic etiologies have become more complicated than the original description of the inheritance of classical dominant, recessive, and X-linked disease. Advanced computerized analysis is required for testing hypotheses about genetic factors in familial disorders, especially in the presence of environmental covariation. Recently, emphasis has been placed on the investigation of heterogeneous genetic etiologies for the very common familial disorders such as heart disease, cancer, and birth defects.

The discipline of medical genetics concentrates on the diagnosis, treatment, and counseling of individuals and families with genetic disorders. An understanding of the clinical variability of individual genetic diseases is crucial to patient and family care. Genetic heterogeneity (several different genetic causes of similar clinical phenotypes) may contribute to this variability and thus is important in accurate diagnosis, prognosis, and risk assessment (for example, dominant and recessive forms of profound hearing loss).

The different approaches of analytical and population genetics are important in illustrating the role of genes in families and large population groups. Analytical genetics focuses on testing hypotheses regarding modes of inheritance, whereas population or epidemiologic genetics examines the frequencies of genes and disorders across populations. Population investigations permit the assessment of frequencies of disorders, and therefore, the population impact of these diseases. Investigation of large numbers of cases and their relatives permits the determination of the mode of inheritance and careful evaluation of both heterogeneity and variability. In addition, studies of traits in large numbers of families permit identification of potential covariates or risk factors that may enhance, exacerbate, or increase risk to certain in-

dividuals, families, or ethnic groups. Thus, the results of analytical and population genetic studies have an important impact on the practice of clinical genetics as well as preventive medical care.

Early studies of human genetic disease were limited to observing discrete, qualitative traits that follow Mendelian rules of inheritance. Single-gene Mendelian disorders are responsible for a significant proportion of human morbidity and mortality. We briefly discuss the distribution of some single-gene Mendelian disorders and then focus on newer methods being used to elucidate the etiology of more complex diseases that may be due to an interaction between genetic predisposition and environmental factors.

Population Differences

While all population groups express thousands of genetic diseases, several single-gene Mendelian disorders are limited to or found in much higher frequency in specific population groups. For example, the gene causing Tay-Sachs disease is rare in all populations except in Ashkenazi Jews from Eastern Europe and in French Canadians where the frequency of carriers may be as high as 1 in 30.[1,2] Since Tay-Sachs disease is concentrated within particular populations, counseling, carrier screening, and prenatal diagnosis can be targeted to these limited groups.

Sickle cell anemia occurs most frequently in areas with a high endemic incidence of malaria,[1] and this deleterious gene is thought to provide selective advantage to heterozygous carriers through increased resistance to malaria. Among black Americans the frequency of the trait is between 8 and 10 percent, corresponding to a gene frequency of about .05.[1] However, the gene frequency in this country will most likely decrease, since there is no heterozygote advantage to carriers in this environment and homozygous affected individuals have a severe selective disadvantage.

Genetic Traits and Environmental Triggers

Other types of single-gene disorders are interesting because an interaction with an environmental agent is necessary for disease expression. When the antimalarial drug primaquine was administered to American servicemen during World War II, severe hemolytic anemia was noted in a large number of individuals, most commonly black males.[3] This anemia was caused by glucose-6-phosphate dehydrogenase (G6PD) deficiency in the affected individuals. G6PD deficiency originated in the Mediterranean area where malaria is endemic, and it is now known that G6PD deficient cells are more resistant to malarial parasite infection.[4]

The field of pharmacogenetics has developed as a result of discovering the genetic variation in response to therapeutic drug use. For some therapeutic agents, the rate of metabolism and therefore dose-response is dependent on genotype. Individuals are asymptomatic in the absence of the specific medication or environmental agent but on exposure become affected by characteristic symptoms due to the effect of a single mutant gene. This suggests many other disorders of genetic origin also may require an external environmental trigger for expression.

Multifactorial Traits

When pedigrees of individuals affected with single-gene disorders are examined, Mendelian patterns of inheritance (dominant, recessive, X-linked) usually are apparent. However, many disorders such as birth defects cluster in families but do not follow strict Mendelian inheritance patterns. These types of diseases are often attributed to multifactorial inheritance; that is, an interaction between an underlying genetic susceptibility and environmental factor(s) leading to disease. The underlying genetic susceptibility usually is attributed to the additive effects of many genes (polygenes), and recurrence risks are usually in the range of 3 to 5 percent. It is important to note that in recent years many traits previously thought to be caused by the small, additive effects of many genes have been shown to involve a single gene with major effect. Examples of such disorders include cleft palate, heart disease resulting from hypercholesterolemia, and some forms of cancer.[5-7] The determination of inheritance patterns and recurrence risks for specific disorders may require analysis of substantial numbers of pedigrees.

Genetic Analysis

In the assessment of any complex group of diseases or malformations, it is first necessary to consider heterogeneity and pleiotropy. A single disorder may have many different causes (heterogeneity), leading to variability in phenotype. On the other hand, a single mutant gene with many different effects (pleiotropy) also contributes to variability among cases. Thus, prior to specific hypothesis testing for different modes of inheritance, cases recognized as the result of different etiologic mechanisms must be separated.

In any attempt to identify a genetic etiology for a disorder, it is necessary to evaluate the nature and cause(s) of the familial aggregation. Familial aggregation of disease is defined as an excess number of affected relatives of cases as compared to relatives of controls. However, simply measuring familial aggregation in this way does not distinguish between possible genetic or environmental causes, and one needs to exercise caution when interpreting the results.

Epidemiologists are interested in familial relationships as a risk factor for disease, whereas geneticists are interested in the underlying biology that causes aggregation in families. After confirming the presence of familial aggregation of a trait, geneticists use segregation analysis to determine if the disease is transmitted from parents to offspring in accordance with

Mendelian laws of inheritance. During the past decade sophisticated computer programs have been developed to test for Mendelian single-gene patterns of inheritance, major gene models of inheritance, and "mixed" models of inheritance with both additive genetic and environmental effects. These methods estimate the probability that individuals with various genotypes will be affected with the disease (penetrance), the probability that the disease genotype will be transmitted from parents to offspring, and the frequency of the mutant allele in the population under study.

Thus, current studies of common disorders merge the disciplines of genetics and epidemiology in an attempt to identify both genetic and environmental risk factors for familial disease. The Baltimore-Washington Infant Study, a comprehensive study of a complex group of malformations that are attributed to multifactorial inheritance, exemplifies these principles.

Baltimore-Washington Infant Study

Congenital cardiovascular malformations (CCVM) are a heterogeneous group of defects. Although some are known to be associated with teratogenic exposures, chromosomal anomalies, and single-gene disorders, the vast majority are of unknown etiology and are attributed to multifactorial inheritance.[8] The Baltimore-Washington Infant Study (BWIS), an ongoing population-based case-control study under the direction of Dr. Charlotte Ferencz, was initiated in 1981.[9,10] Its goal is to identify environmental and genetic risk factors for CCVM in the defined geographical area including Maryland, Washington, DC, and five counties in Northern Virginia. All infants diagnosed with a CCVM (confirmed by echocardiography, cardiac catheterization, surgery, or autopsy before one year of age) are compared to a random sample of the resident birth cohort. Detailed sociodemographic and medical information, environmental exposures, and family history information on all first- and second-degree relatives are collected from patient and control parents during at-home interviews.

There are several advantages to using this type of population-based design for the study of genetic diseases. Complete ascertainment of all cases is achieved through the cooperation of the six regional pediatric cardiology centers and through annual review of death certificates to identify cases who died before diagnosis. Thus, it is possible to calculate accurately the frequency of all defects in this population and to include all families in estimations of recurrence risks for these malformations. A population-based study avoids some of the biases in clinical studies that do not include the more severely affected cases who die soon after birth. The cooperation of pediatric cardiologists at the referral centers also insures consistency of diagnosis, leading to more accurate definitions of the affected phenotype.

In analyzing data from the BWIS, we first separated cases attributed to chromosomal anomalies, single gene syndromes, and teratogenic exposures and focused on cases with isolated cardiac defects (Table 1). Next, the issue of classification of types of defects was considered. Analyzing all CCVM as a single group could overlook the characteristics and risk factors associated with a specific subgroup. However, splitting CCVM into many subgroups might ignore interactions that occur in the developing embryo and result in groups that were too small to analyze. Therefore, new concepts were used to classify CCVM according to pathogenic mechanisms that may be important in the developing heart.[11]

Table 1. Ascertainment of Cases with Congenital Cardiovascular Malformations (1981 - 1986) in the BWIS

Type of defect	Number
Isolated cases	1,626
Cases with extra-cardiac defects	
Chromosomal anomaly	282
Syndrome/heritable disorder	86
Suspect syndromes *	29
Infective, toxic, or endocrine embryopathy	17
Non-syndromal malformation	199
	613
Total	2,239

* These represent complexes of multiple malformations which do not conform to previously described associations of anomalies.

Analysis of familial aggregation indicated there was an excess of affected first-degree relatives among families of patients with specific isolated CCVM attributed to abnormal embryonic blood flow; this includes patients with hypoplastic left heart syndrome, aortic stenosis, coarctation of the aorta, atrial septal defect (secundum), pulmonary stenosis, and patent ductus arteriosus (Table 2).[12] New biostatistical techniques also permitted us to examine the effect of sex, race, and maternal age on the risk of CCVM[13]; none was found to have a significant effect on risk to siblings.

BWIS family data from cases with CCVM attributed to altered embryonic blood flow were then used in segregation analysis in an attempt to identify a Mendelian mode of inheritance.[14] Preliminary results suggested an autosomal recessive model of inheritance among families of patients with left heart obstructive defects, right heart defects, and perimembranous ventricular septal defect (VSD)(Table 3). The risk of CCVM in families of probands with VSD and right heart defects appeared to be closely associated with race. There was increased risk to relatives of white patients with right heart defects and to relatives of black patients with VSD. Differences in the exposures and demographic characteristics of the white and nonwhite mothers of probands in this data set may explain part of this familial aggregation. However, as discussed previously, many examples of genetic defects are found more frequently in specific ethnic or racial groups.

Further studies are needed to determine the role and

Table 2. Affected First-Degree Relative of Cases with Isolated Congenital Cardiovascular Malformations

	Number of Probands	Affected Parents	Normal Siblings	Affected Siblings
Looping abnormalities	41	-	22	-
Major septation and conotruncal defects				
D-transposition of the great arteries	18	-	61	1
Truncus arteriosus	18	-	7	-
Double outlet right or left ventricle	27	-	17	-
Tetralogy of Fallot	112	2	58	-
Single ventricle	11	-	5	-
Total anomalous pulmonary venous return	29	1	22	-
Endocardial cushion defect	41	1	27	1
Right heart defects				
Tricuspid atresia, hypoplastic right heart	56	-	26	-
Pulmonary stenosis	160	3	91	4
Ebstein's anomaly	17	1	15	2
Other valve anomalies	21	1	6	1
Left heart defects				
Hypoplastic left heart	97	1	66	6
Interrupted aortic arch	7	-	2	-
Aortic stenosis	56	1	32	-
Coaretation of the aorta	100	2	60	4
Other valve anomalies	45	1	24	1
Septal defects and ductus				
Atrial septal defect	125	3	65	2
Ventricular septal defect	459	7	228	7
Patent ductus arteriosus	36	-	19	2
Other defects				
Other great vessel, coronary	16	-	8	-
Myocardiopathies	34	1	24	-

Table 3. Genetic Model Testing of Specific Groups of CVM

Type of Defect	Number of Families	Best Fitting Model
Left heart defects	142	Autosomal recessive
Right heart defects	113	Autosomal recessive with race effect
VSD	120	Autosomal recessive with race effect

possible interaction of genes and environment in the familial aggregation of CCVM among different racial groups revealed in this analysis. A pilot study of families of patients with hypoplastic left heart syndrome showed that several parents had silent defects that were identified by echocardiography.[15] Further studies of specific types of families are needed before we can conclude that specific CCVM are due to the effect of a single mutant gene. In addition, investigations will continue to determine the degree of variability of specific malformations within and among families, and further clarification will be sought regarding heterogeneity in this complex group of developmental malformations.

Conclusions

The analysis of familial traits (qualitative and quantitative) has advanced significantly in the last several decades. The original approaches of identifying clear-cut Mendelian patterns by simple recognition and correlation of biometrical measures between relatives have been supplanted by more formal genetic hypothesis testing and the search for specific genetic and environmental etiologic factors. The focus of these analyses has turned from the individually rare familial disorders, such as metabolic diseases, to the more common causes of major health problems that often cluster in families.

There is a growing evidence that many complex diseases are heterogeneous in nature. Alzheimer's disease, autism, cardiovascular disease, congenital malformations, and cancer are among the many complex diseases suspected of having a strong genetic component. Epidemiological investigations continue to identify individual and environmental risk factors for these diseases, while genetic analyses attempt to elucidate an underlying biological mechanism. The findings of these types of studies will be important to clinicians in predicting risk, counseling family members, developing presymptomatic testing programs, and designing therapeutic strategies.

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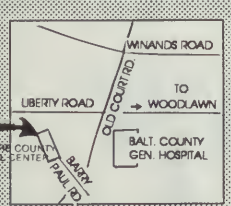
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Recent Advances in Genetics

Miriam G. Blitzer PhD, Stuart Schwartz PhD, Tina M. Cowan PhD, and Leslie J. Raffel MD

From the Division of Human Genetics, Departments of Pediatrics and Obstetrics and Gynecology, University of Maryland School of Medicine, where Drs. Blitzer, Schwartz, and Raffel are Assistant Professors; and Dr. Cowan is a Research Associate.

Recent advances in the specialties of molecular genetics, biochemical genetics, and cytogenetics have made it apparent that comprehending their interdependence is necessary for complete understanding of genetic disease.

The field of of human genetics has advanced dramatically over the last 20 years. From identifying the underlying cause of numerous metabolic diseases to defining many inherited syndromes both clinically and cytogenetically, major inroads have been made in our understanding of genetic disease. The newest discipline that has influenced research in human genetics is molecular biology. The application of molecular technology to all disciplines has led to better understanding of the basic defects at the DNA level that lead to disease.

Molecular Genetics

As a result of advances in DNA technology during the last 15 years, we are now beginning to understand and to be able to diagnose human disease directly at the gene (DNA) level. An important first step toward this goal was the discovery of restriction endonucleases, a group of enzymes naturally used by bacteria to destroy the foreign DNA of infecting viruses.[1] These restriction endonucleases are now exploited by molecular biologists to cleave and manipulate DNA from eukaryotic cells. With the use of these enzymes it is possible to isolate a specific human gene and to insert, or clone, it into a rapidly replicating bacterial system. Large numbers of copies of the gene of interest can be generated and used in further molecular analyses.

In addition, restriction enzymes are also important in other aspects of the characterization of human DNA. Each of these enzymes recognizes a specific nucleotide sequence (between 4 to 8 bases) in the DNA and always cleaves the DNA at the same site relative to the recognition sequence. Thus, when DNA from a given patient is isolated and digested with a single restriction endonuclease, the same group of DNA fragments is always generated. The number and size of these restriction fragments depends on the frequency of specific recognition sequences (or restriction sites) in that patient's DNA. The recognition sequen-

ces range from only a few base pairs in length, which are likely to occur frequently within the human genome, to longer sequences that occur less often. Therefore, restriction enzymes with short recognition sequences generally will produce small DNA fragments, while those with longer recognition sequences will generate larger fragments. It is important to note that restriction sites occur both within and between genes and are in no way related to either the expression of genes or the functioning of their products.

Once a gene has been cloned, it is possible to use that gene to determine the presence or absence of a mutation in the corresponding gene of a patient. A common approach toward this goal is "restriction fragment length polymorphism" (RFLP) analysis.[2] In this procedure, DNA is isolated from a blood sample and treated with a specific restriction enzyme to produce small fragments. The DNA is then applied to an agarose gel and subjected to electrophoresis, which separates the restriction fragments according to size. The separated fragments are then transferred onto a piece of nitrocellulose filter or nylon membrane by Southern blotting, a procedure in which the DNA is eluted from the gel to the membrane, where it irreversibly binds. This preserves the original pattern of separated fragments from the agarose onto the membrane. The cloned gene of interest is then radioactively labeled, and the membrane containing the patient's DNA is incubated in a solution containing the labeled gene, or probe. The probe recognizes and anneals to complementary sequences in the patient's DNA and, after exposure of the blot to x-ray film, an autoradiogram is generated in which the visible bands are those that contain sequences recognized by the labeled probe. The size of the restriction fragment or fragments from the patient's DNA that are recognized by the labeled gene depends on the distribution of restriction sites relative to that gene.

Sickle cell anemia was the first human disease in which RFLP analysis was used clinically. In 1978, Kan and Dozy reported that when DNA from different individuals was digested with the restriction enzyme HpaI, subjected to agarose electrophoresis and Southern blotting, and hybridized with a radiolabeled β-globin gene probe, two different-sized fragments could result.[3] This occurs because some individuals have a HpaI recognition sequence closely linked to the β-globin gene, while in other individuals this restriction site is absent. Although the presence or absence of this site does not itself cause sickle cell anemia, it can be used as a marker for the β-globin mutation in informative families, that is, families in which the parental genes with the β-globin mutation are carried on different sized HpaI fragments than the normal genes.

Thus, in an informative family with at least one affected child, subsequent pregnancies can be monitored for sickle cell anemia by first analyzing the DNA from the affected child and both parents and determining which HpaI fragments contain the mutant β-globin genes. The presence or absence of the mutant alleles in a fetus can then be inferred from its pattern of HpaI fragments. Although clearly a step forward in prenatal diagnosis for sickle cell anemia, this type of RFLP analysis has drawbacks in that it is only useful for families who have had at least one affected child. In addition, it cannot be used for families in which the mutant β-globin alleles are carried on the same-sized HpaI fragments as the normal alleles (that is, uninformative families). Finally, because this analysis identifies the presence or absence of a restriction site closely linked to, but not directly at, the site of the mutation itself, the possibility exists for a recombinational event (crossing over of DNA segments between two homologous chromosomes) altering the relationship between the mutation and the restriction site. For this reason, there is a small chance that this type of analysis will incorrectly predict an unaffected fetus that has actually inherited the sickle cell mutation from both parents.

Subsequently, it was found that the recognition site for a different restriction enzyme, MstII, occurs directly at the site of the sickle cell mutation itself. In the normal β-globin gene this MstII site is present and the DNA is cleaved into two smaller fragments on treatment with the enzyme. The sickle cell mutation serves to alter this site such that cleavage by MstII does not occur. The presence or absence of this site can again be visualized by hybridizing with labeled gene probes from the β-globin region following electrophoresis and Southern blotting. In contrast to analysis with HpaI, this method involves direct ascertainment of the point mutation causing the disease, and recombination cannot occur. Therefore, prenatal diagnosis is now available for all couples at risk for having a child with sickle cell anemia, whether or not they have had an affected child.

A technological advance important in the prenatal diagnosis of hemoglobin (Hgb) SC is oligonucleotide probing.[4] MstII cannot distinguish between the normal Hgb A and mutant Hgb C alleles since the Hgb C mutation does not alter the normal MstII recognition sequence, and therefore RFLP analysis with this enzyme is not informative. Instead, oligonucleotide probes, or short pieces of DNA, are synthesized that directly correspond to the known DNA sequences of Hgb A, C, or S in the region of the mutation site. Under stringent laboratory conditions, these probes recognize and bind only to patient DNA that is exactly complementary; binding does not occur if the oligonucleotide probe and the patient DNA differ by even a single base pair. In the assessment of a fetus at risk for Hgb SC disease, the fetus is affected if both the Hgb S and Hgb C probes hybridize to fetal DNA. If, however, one of these probes does not anneal to the sample, the fetus is not affected. In this case, the Hgb A probe is expected to bind to the fetal DNA sample as well.

In addition to sickle cell anemia, molecular techniques are now used in the diagnosis of several dozen genetic disorders, including cystic fibrosis, Duchenne

muscular dystrophy (DMD), hemophilia A, α- and β-thalassemia, adult polycystic kidney disease, and Huntington disease. Unfortunately, the actual genes causing most of these disorders have not yet been cloned, so analysis is limited to inference of the disease-causing gene by linkage to a nearby RFLP. For some disorders, RFLPs occur in segments of DNA very close to the disease-causing gene, and in these cases RFLP analysis is quite reliable. However, for other disorders the RFLPs that have been identified are relatively far away from the disease-causing gene, such that recombination between the two sites occurs fairly commonly. For this reason it is always necessary, when offering prenatal diagnosis to families, to take into consideration the risk of misdiagnosis as a result of recombination. For a family facing a 25 percent risk of having an affected child (that is, a family at risk for an autosomal recessive disorder such as cystic fibrosis), the ability to use RFLP analysis to reduce their risk to only 3 to 5 percent may be extremely reassuring, even though the risk has not been totally removed.

The most recent molecular technique to be used in prenatal diagnosis involves the use of the polymerase chain reaction (PCR).[5,6] Using PCR, a specific DNA sequence can be amplified to many thousands of copies very quickly when starting from only a very small sample of DNA. For this reason, the development of PCR has drastically reduced the time necessary for prenatal diagnosis, since it is no longer necessary to culture the cells obtained by amniocentesis or chorionic villus sampling to generate the large amounts of DNA required for analysis. Instead, amniocytes or chorionic villus tissue is taken directly after sampling, and the portion of DNA to be studied is amplified using PCR. Sufficient DNA is generated to enable prenatal diagnosis to be completed within hours of the time the sample was obtained.

The application of recombinant DNA technology has led to the molecular identification and characterization of some disease-causing genes themselves. This is the case for Duchenne muscular dystrophy (DMD), for which prenatal diagnosis was performed using RFLP analysis with anonymous X-chromosome probes thought to recognize sequences closely linked to, but not within, the DMD gene. It was later discovered that one of these anonymous probes contained a portion of the DMD gene itself, and by using this probe it was ultimately possible to isolate and clone the entire DMD gene. This gene has been shown to encode a protein (dystrophin) located close to the cell membrane of skeletal muscle that appears to be important in protecting the muscle cell from damage during contraction. Thus we can study the pathophysiology of DMD in much greater detail.

Analysis of the DNA from patients with DMD has revealed a series of different, large deletions of the dystrophin gene in as many as 70 percent of cases. Therefore, for families in which a deletion is identified as the cause of DMD, carrier detection for females, as well as prenatal diagnosis, can be provided since restriction enzyme sites are also deleted, leading to abnormal banding patterns on Southern analysis. For those families in which a deletion cannot be demonstrated, carrier detection and prenatal diagnosis still can be performed by classic analysis of linked RFLPs, although this approach is inherently less accurate than in those cases where a deletion is found.

In contrast to the successful isolation and characterization of the DMD gene, attempts to clone other disease-causing genes where linked RFLPs have been identified, most notably Huntington disease, have not been as productive. The approach for cloning these genes involves the techniques of chromosome "walking" and "jumping," in which the probe recognizing an RFLP linked to the disease-causing gene is used to identify and clone a neighboring, overlapping sequence that is similarly used to identify the next overlapping sequence, and so on. In this way, one moves closer and closer to the gene of interest.

It is now clear that the distance between some disease-causing genes and their linked RFLPs may be quite large, and chromosome walking and jumping therefore can be technically very difficult and time consuming. To overcome these difficulties, a new technique (pulsed field gel electrophoresis) has been developed that allows the separation of much larger fragments of DNA than can be separated by conventional electrophoretic techniques.[7] These larger DNA fragments are generated by a group of restriction enzymes called infrequent cutters, for which restriction sites occur only rarely in the human genome. Isolation and screening of these larger fragments to see if they contain the gene of interest should allow for more rapid cloning of disease-causing genes, including Huntington disease.

Biochemical Genetics

The field of biochemical genetics is changing rapidly, most importantly as a result of advances in molecular biology and the application of the new techniques to the study of inborn errors of metabolism. Contemporary investigations are leading to a heightened appreciation of the vast molecular heterogeneity that underlies many disorders as well as providing new insights into the relationship between the structure and function of specific genes and their products. Since we cannot address all the important advances in biochemical genetics, we review some new areas of research, highlighting a few specific disorders to illustrate the growth in this field.

Inherited disorders of organic acid metabolism
In 1966, Tanaka and his colleagues first used gas-liquid chromatography (GC) and mass spectrometry (MS) to identify abnormal compounds in urine from a young patient, which led to the diagnosis of isovaleric acidemia, an inborn error of organic acid metabolism.[8] Since that time, more than 60 additional diseases have been described in which organic acids accumulate in abnormal amounts in physiological fluids. Organic

acids include metabolic intermediates from amino acids, lipids, carbohydrates, and steroids. An enzymatic block at any metabolic step in these pathways leads to an abnormal accumulation of organic acids in blood; these acids are concentrated by the kidney and excreted in the urine, where they can be detected and quantified using GC/MS. By examining the specific compounds excreted, the location of the specific metabolic block can be inferred.[9]

Despite the large number of different organic acidurias, the clinical findings for this group of disorders as a whole are somewhat nonspecific. Patients typically present within the first weeks or months of life with failure to thrive, vomiting, and abnormal neurological findings, including seizures, hypotonia, lethargy, or coma. Laboratory findings often include metabolic acidosis, hypoglycemia, ketosis, hyperammonemia, and hyperglycinemia. Significant heterogeneity exists for these disorders, and more mildly affected patients may present with only developmental delay or mental retardation. Although the organic acidurias are individually very rare, as a group they are relatively common (estimates are as high as 1/3,000 births) and therefore must be considered in the differential diagnosis of any acutely ill infant or child, particularly one with a history of recurrent episodes of metabolic collapse of unknown etiology.

Studies of the precise biochemical defects that underlie specific organic acidurias have revealed an unexpected degree of heterogeneity. The majority of organic acidurias are caused by a mutation in a specific enzyme. To have functional activity, some of these proteins require vitamins as cofactors, and several disorders exist with defects in cofactor formation or binding to the apoenzyme. These patients usually respond to megavitamin treatment. One of the newer vitamin-responsive disorders described is biotinidase deficiency, in which a single enzyme defect leads to secondary blocks in multiple enzymatic steps.[10] This autosomal recessive disorder results from deficient activity of biotinidase, an enzyme essential for the recycling and utilization of biotin. Biotin is a vitamin required by at least four different carboxylase enzymes involved in amino acid and carbohydrate metabolism. Biotinidase deficiency therefore leads to a secondary deficiency in biotin, leading in turn to blocks in each of the biotin-dependent enzymatic steps. This disorder also is called late-onset multiple carboxylase deficiency. Patients typically present within the first year of life with seizures, ataxia, developmental delay, hearing loss, alopecia, and skin rash. If left untreated, life-threatening illness with ketoacidosis and organic aciduria can develop. However, treatment with biotin is highly successful in reversing most of the clinical and biochemical abnormalities. Finally, with the implementation of newborn-screening programs for biotinidase deficiency in several states, individuals have been identified with reduced, but not absent, biotinidase activity. The molecular characterization of these variants is expected to provide insight into the structure and function of the biotinidase enzyme.

The organic acidurias also include defects in fatty acid oxidation, or the sequential breakdown of fatty acids to ketone bodies, that enter the tricarboxylic acid cycle and ultimately are used in the production of energy. One disorder receiving a great deal of attention is medium-chain acyl CoA dehydrogenase (MCAD) deficiency.[11] Deficiency of MCAD leads to a block in utilization of fats for energy; this in turn increases demand on utilization of glucose and therefore to precipitous episodes of hypoglycemia. The resulting hypoglycemic shock can lead to sudden death, and it has been suggested that this disorder may account for some cases of sudden infant death syndrome. As our awareness of MCAD deficiency increases and more patients are being diagnosed, it appears likely this may be one of the more common inborn errors of metabolism.

Mitochondrial myopathies Mitochondrial myopathies have been described both clinically and pathologically for decades, yet the underlying biochemical and molecular details only recently have begun to be elucidated. These disorders result from enzymatic blocks in the energy-producing reactions of the oxidative phosphorylation (ox-phos) pathway, which occurs in the mitochondria. Mitochondria are unique organelles in that they contain their own genetic material, some of which encode enzymes of the ox-phos pathway. The majority of enzymes involved in electron transport are encoded in the nucleus and must be transported into the mitochondria. Mitochondrial disorders can therefore arise as a result of mutations in either nuclear or mitochondrial genes. Those resulting from nuclear mutations are inherited in a classical Mendelian fashion. In contrast, those resulting from mutations in mitochondrial DNA are inherited exclusively from the mother (maternal inheritance), since mitochondria are passed on in ova not sperm. This is important not only from the standpoint of unraveling the complexity of the mitochondrial myopathies but also in terms of counseling families at risk for having a child with one of these disorders.

Two mitochondrial disorders very recently have been characterized at the molecular level, Leber's hereditary optic neuropathy (LHON)[12] and myoclonic epilepsy associated with ragged-red muscle fibers (MERRF).[13] Both these disorders result from mutations in mitochondrial DNA. To determine the precise molecular defect in LHON, the entire mitochondrial genome from LHON patients was sequenced and compared with that of normal individuals. This analysis revealed that LHON results from a single base pair substitution in the gene for NADH dehydrogenase subunit 4. Furthermore, this mutation eliminates the recognition site for the restriction enzyme Sfa NI, thereby providing a simple means for distinguishing affected from unaffected individuals. Although the precise mutation resulting in MERRF

has not yet been identified, it is thought to be a point mutation or other small rearrangement in a single ox-phos gene. For both LHON and MERRF patients, a spectrum of clinical symptoms is seen, possibly as a result of the influence of other genetic and environmental factors in conjunction with an ox-phos defect. In addition, the variable phenotypic expression of MERRF appears to be a function of the distribution of normal and mutant mitochondria within cells (referred to as heteroplasmy). Therefore, even if a specific mutation is detected in a female, it is impossible to predict the degree of severity with which her children will be affected, since the proportion of mutant to normal mitochondria may vary in each offspring.

Peroxisomal disorders Peroxisomes are organelles containing catalase, an enzyme that oxidizes hydrogen peroxide (as well as other enzymes involved in a variety of metabolic processes) including the oxidation of very long chain fatty acids (chain length greater than 22 carbons) and dicarboxylic acids, the biogenesis of bile acids and plasmalogen, and the catabolism of leucine and phytanic acid. Although peroxisomes were originally described in the early 1960s, their biogenesis, function, and role in human disease are only now being elucidated. Human peroxisomal disorders are characterized by either the absence of peroxisomes (for example, Zellweger's syndrome or infantile Refsum's disease) or the abnormal function of one or more peroxisomal enzymes (rhizomelic chondrodysplasia punctata or X-linked adrenoleukodystrophy).[14] The clinical findings for these disorders are highly variable and can include severe mental retardation, seizures, multiple congenital anomalies, hepatomegaly, hypotonia, peripheral neuropathy, cerebellar ataxia, and retinitis pigmentosa. Depending on the specific disorder, age of onset can vary from early infancy to adulthood. Biochemically, very long chain fatty acids are elevated; evaluation of other biochemical functions that occur in this organelle also are useful when considering these disorders.

Molecular approaches to biochemical genetic disorders With the application of molecular techniques, we are beginning to understand the basis for the clinical and biochemical heterogeneity of various inborn errors of metabolism in terms of specific molecular defects. This is illustrated by recent studies on Tay Sachs disease, a lysosomal storage disorder caused by deficient activity of β-hexosaminidase A (hex A), due to a mutation in the α-chain of this polypeptide. The disorder occurs most frequently in the Ashkenazi Jewish population and in a non-Jewish French Canadian inbred group. The disease in these two populations is the same with respect to age of onset, clinical presentation, and virtual absence of enzyme activity. Surprisingly, however, it recently was demonstrated that the hex A mutations in these two populations are entirely different: the French Canadian mutation is a large deletion in one end of the hex A gene, while that for Jewish patients was shown to be a single nucleotide substitution. In addition, further studies of the hex A gene in Jewish patients have revealed a second mutation responsible for Tay Sachs disease in this population. This unexpected degree of molecular heterogeneity between and within populations will help clarify both the possible biochemical and clinical effects of various hex A mutations, as well as the mechanisms responsible for the maintenance of the various mutations in these populations.[15]

Cytogenetics

Although the discipline of cytogenetics has existed since the early 1900s, clinical cytogenetics (the study of the relationship between chromosomal aberrations and human disease) has been investigated extensively only since 1956 when Tjio and Levin first reported that the true chromosome number in humans is 46. This report quickly led to the cytogenetic characterization of a large number of clinical syndromes in which there is an underlying chromosomal abnormality. In its broadest sense, cytogenetics overlaps many medical disciplines, most importantly pediatrics, obstetrics, hematology, and oncology. Cytogenetic analysis is used in many different situations, including

1. Diagnosis of autosomal or sex chromosome abnormalities in pediatric patients
2. Prenatal diagnosis in conjunction with amniocentesis, chorionic villus sampling or percutaneous umbilical blood sampling
3. Fertility workup to determine if the cause of a couple's infertility or multiple pregnancy loss is chromosomal in nature
4. Determining whether fetuses that are lost as spontaneous abortuses or stillbirths may have a chromosomal abnormality

Cytogenetic techniques are applied within the disciplines of hematology and oncology in the evaluation of chromosomal changes in leukemias and solid tumors. The following overview of these commonly known facets of cytogenetics discusses some of the more recent advances in medical cytogenetics specifically pertaining to the pediatric and obstetric disciplines.

Autosomal and sex chromosome abnormalities Since the discovery that Down syndrome is caused by an underlying chromosomal abnormality (trisomy 21), many other autosomal and sex chromosomal syndromes have been defined. The major chromosomal syndromes are listed in Table 1, including Down syndrome, trisomy 13, trisomy 18, Turner syndrome, and Klinefelter syndrome.[16] Although many more syndromes associated with abnormal chromosomal findings have been described, current advances in cytogenetics are taking place not in the characterization of syndromes *per se* but in the development of new laboratory techniques for diagnosing these syndromes. To date, the majority of cytogenetic studies have been carried out using standard techniques for cell culture and chromosome banding. However, high-resolution chromosome studies

Table 1. Commonly Encountered Cytogenetic Syndromes

Syndrome	Karyotype	Frequency
Down	47,XX,+21+ 47,XY,+21	1/700 livebirths
Trisomy 18	47,XX,18+ 47,XY,+18	1/8,000 livebirths
Trisomy 13	47,XX,+13+ 47,XY,+13	1/10,000 livebirths
Turner	45,X* 46,X,iso(Xq)	1/5,000 livebirths
Klinefelter	47,XXY	1/1,000 livebirths

+ Most commonly seen due to nondisjunction, however may be encountered as a Robertsonian translocation [e.g., 46,XY,-14,+t(14q21q)]

* 45,X karyotype found in 60% of cases of Turner syndrome

Table 2. Syndromes Associated with Subtle Chromosomal Abnormalities

Syndrome	Chromosomal Abnormality
Langer-Giedion	Deletion 8q24.1
Aniridia-Wilm's Tumor Association	Deletion 11p13
Retinoblastoma	Deletion 13q14
Prader-Willi	Deletion 15q11-q13
Angelman	Deletion 15q11-q13
Miller-Dieker	Deletion 17p13.3
DiGeorge	Deletion 20q11.2
Cornelia de Lange	Duplication 3q25-qter
Beckwith-Wiedemann	Duplication11p13-p15

and banding techniques have been developed that allow for the study of chromosomes in much finer detail than was previously possible. These methods have been used to characterize several subtle cytogenetic syndromes involving a small deletion or duplication of chromosomal material, some of which are listed in Table 2.

It is noteworthy that the cytogenetic basis for these syndromes may not be recognized using standard techniques.[17] Additionally, many fit the new classification known as contiguous gene syndromes. These syndromes, first described by Schmickle in 1986, demonstrate recognizable patterns of malformations often in association with mental retardation and growth abnormalities.[18] Included are a number of phenotypic abnormalities that cannot be explained by a single gene defect but rather are thought to involve, to varying degrees, small deletions or duplications of chromosome material or rearrangement of two or more neighboring genes. Although not all the syndromes listed in Table 2 are known to be contiguous gene syndromes, they all involve, to varying degrees, small deletions or duplications of chromosome material. However, chromosomal rearrangements are not seen in every patient with a given syndrome; it is thought that patients without visible cytogenetic deletions may in fact have deletions too small to detect microscopically that can only be demonstrated utilizing DNA technology. This is true for several cases of both Miller-Dieker syndrome and Prader-Willi syndrome. These syndromes not only illustrate the utility of higher-resolution technology but also denote syndromes that are most amenable to diagnosis utilizing molecular cytogenetics (a combination of DNA and cytogenetic techniques).

The most recent advance in the study of the sex chromosomal abnormalities is the further characterization of the fragile-X syndrome, which was first described in the late 1960s.[19] This disorder, also called Martin-Bell syndrome, has come under considerable scrutiny in the last decade, and is considered to be the most common cause of inherited mental retardation in males. It is characterized cytogenetically by a small "constriction gap" or break in the long arm of the X chromosome under specific cell culture conditions. Fragile-X syndrome is a well-established syndrome with phenotypic features that may include a long face, mid-face hypoplasia, prominent forehead, large mandible, large, simple pinnae, and, frequently, large testes. A comparison of the phenotypic differences between black and white males with fragile-X syndrome revealed that the craniofacial traits including the long face, mid-facial hypoplasia, large jaw, and simple pinnae were found less frequently in black males and in the prepubertal boys of both races. In general, males with fragile-X syndrome are found to have normal head circumference, length, and weight at birth; head circumference then typically increases to above the 50th percentile, and continues to be above average throughout the preadult years. There are no significant increases in height and weight during this period. Psychomotor development is significantly delayed in these males. In one study, the average age for attaining unassisted walking was 20.6 months, the time until the first clearly spoken words was 20 months, coupling words into phrases was 45 months and use of sentences 60 months. The average IQ of affected males has been estimated at 33.3.

The literature regarding the association of the fragile-X chromosome with autism and mental retardation recently has been reviewed by Fisch *et al.*[20] In the 15 independent studies of autistic males, ranging in sample size from 6 to 183, the frequency of fragile-X syndrome ranged from 0 to 15.7 percent, with an overall frequency of 6.7 percent. In addition, 16 much larger studies of mentally retarded males, ranging in sample size from 66 to 818, were reviewed. The frequency of fragile-X syndrome in these studies ranged from 0 to 19.5 percent, with an overall frequency of 5.3 percent.

One important feature of fragile-X syndrome is that of all males who inherit the fragile-X chromosome from a mentally *normal* female, only 78 percent actually express the phenotypic characteristics of fragile-X

syndrome.[21] In contrast, 100 percent of the males that inherit the chromosome from a mentally *impaired* female express the syndrome. Female carriers of the fragile-X syndrome exhibit variability for both the clinical phenotype and the *in vitro* expression of the fragile-X site itself. Female carriers of the fragile-X syndrome who express the fragile-X site have an average IQ of 53.6, while female carriers who do not express the fragile-X site have been shown to have normal IQ scores. Finally, approximately 56 percent of the females who inherit the fragile-X chromosome from a mentally impaired female and 32 percent of the females who inherit the chromosome from a mentally normal female express the fragile-X site and have some degree of mental impairment. These studies indicate the importance of fragile-X evaluation in both males and females with mental retardation or developmental delay of unknown etiology.

Prenatal diagnosis Advances in prenatal diagnosis are not related to specific findings but rather to new techniques. Cytogenetic analysis of amniotic fluid cells has improved mainly because of the advances in and more widespread use of new cell culturing techniques. Amniotic fluid cells are grown and harvested on either coverslips or in small chambers directly on microscope slides, allowing for more rapid diagnosis. Cultures can now be harvested and analyzed between 6 to10 days on the average, in comparison to 21 days when culture flasks were used as the major means of culturing cells. Since these cells grow in clones of cells, it also allows for more sophisticated evaluation of mosaicism and the origin of abnormalities within the amniotic fluid cells. Other advances in prenatal diagnosis tend to be associated more with obstetrical rather than with cytogenetic techniques.

The most recent advance in prenatal diagnosis is the implementation of chorionic villus sampling.[22] After a slow start, this technique has been readily accepted by the medical community. However, there is some degree of both false-positive and false-negative chromosomal findings in the analysis on the chorionic villus samples. Much of this complication has been eliminated by analyzing both direct preparations as well as short-term cultures of the chorionic villus specimen. While this may weaken the benefits of very rapid diagnosis, it also eliminates some of the difficulties and problems from the chromosome findings. Evaluating both direct preparation and short-term cultures from chorionic villus biopsies will result in a cytogenetic diagnosis within 7 to 10 days, leading to repeat studies (specifically amniocentesis), in only 1/100 biopsies analyzed.

Conclusions

It is apparent that research in all disciplines of human genetics is leading to better understanding of human disease. Advances being made at the DNA level by the use of new molecular technology could not have been made without the foundation of knowledge gained from basic biochemical and cytogenetic research. Further research, therefore, is dependent on close collaboration among all these specialties. As these techniques become more standard and are made available for diagnosis (especially prenatal or presymptomatic diagnosis), we must be aware of potential ethical dilemmas that may arise. The importance and application of these techniques to the future development of gene therapy may profoundly alter the futures of individuals with genetic disease. Only through careful and caring application of scientific development can we assure continuous rapid advancement and appropriate application to clinical care.

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State-Sponsored Genetic Services in Maryland

Susan R. Panny MD and Barbara A. Bernhardt MS

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A cooperative network including Department of Health and Mental Hygiene (DHMH) units, university teaching hospital genetics units, and voluntary groups delivers state-sponsored medical genetic services in Maryland. Maryland's system is one of the most extensive and accessible in the United States.

Maryland is fortunate in being able to offer a relatively extensive and accessible network of genetic services to its residents. The Maryland Department of Health and Mental Hygiene (DHMH) coordinates this cooperative network that includes direct health department services, services provided by university teaching hospital affiliated genetics units, and services provided by various community based voluntary groups.

The goal of the cooperative network is to identify patients and to reduce the mortality, morbidity, and losses to society caused by genetic diseases and birth defects. Services are provided to patients having or suspected of having genetic disorders and to persons at risk for having children with genetic disorders. By law, all services in Maryland are offered on a voluntary basis and informed consent is required of all participants in any genetic services program.[1] The Maryland genetics network subscribes to the policy of the national Council of Regional Genetics Networks (CORN) that each state should provide certain minimal genetic services including newborn screening, access to state-of-the-art diagnostic and treatment services for affected patients and their families, birth defects surveillance, and educational and specialty programs appropriate to the state's specific needs and population.[2]

The network also has worked to eliminate the financial and geographical barriers that might prevent Maryland residents from best using the available genetic services. All Maryland residents are eligible for services, and no patient is turned away because of inability to pay.

Organization and Funding

The state genetic services network is supported by a combination of state general funds, federal Maternal and Child Health (MCH) Block Grant funds, and categorical grant (mostly federal) funds.

The service network consists of a central core unit in the Department of Health and Mental Hygiene and a grant program that it administers.

This DHMH core unit, the Division of Hereditary Disorders, located in the O'Conor State Office Building in Baltimore, is supported by approximately $310,000 in state general funds. The central core unit provides newborn screening, follow-up services (including dietary therapy for patients identified through newborn screening), hemoglobinopathy screening, alpha-feto-protein (AFP) screening, a birth-defects reporting and information program, a clinical genetics and prenatal diagnostic referral service, educational programs for professional and lay audiences, and a consultation service for local health departments and community health professionals. The Division of Hereditary Disorders works closely with other units in the state health department, especially the Laboratories Administration, to provide these services.

Case-management services for children with sickle cell disease are supported by a federal SPRANS (Special Projects of Regional and National Significance) grant of $182,000.

The grant program administered by the DHMH is supported by federal Maternal and Child Health (MCH) block grant funds. The Secretary of Health and Mental Hygiene has allocated approximately $400,000 of Maryland's MCH block grant for clinical genetic services. These funds support a unique cooperative arrangement. Maryland has long been a center for medical genetics, and many of the pioneers in this field have worked or trained in Baltimore. Several of the medical genetics units in leading Maryland medical institutions have had a long-term interest in providing genetic services on a population-wide basis but were unable to support the full cost of such services within institutional budgetary constraints. Knowing that the interest and some of the needed resources existed, the Department of Health and Mental Hygiene was able to initiate a clinical genetic services program by offering grants which provided a partial subsidy of the services to be procured. The grantees, mostly university affiliated teaching hospital genetics units, provide an in-kind contribution worth two to three times the dollar value of the grants. This partnership benefits both the medical institutions and the state, providing the institutions with a partial subsidy of clinical services at a time when federal research funding, which historically had supported some of these clinical activities, became increasingly difficult to obtain. The partnership provides Maryland residents with a significantly higher level of service than could be provided by either the state alone or the university teaching hospital genetics units alone.

Grants for the last three years have been awarded on the basis of proposals submitted in reply to a formal RFP (Request for Proposals) as specified in the *Maryland Code of Regulations*, Title 21. However, recent changes in the procurement policy for human services may simplify the procedure in the future. Specialized procurement regulations (*Maryland Code of Regulations* 10.52.01) specify the educational credentials, experience, and medical specialty board certification required of providers. For laboratories, continuing successful participation in appropriate laboratory proficiency testing programs also is required. This ensures that the genetic services procured by the DHMH are of the highest quality.

The clinical services procured through the grant program are provided on a tertiary center/outreach clinic model. Specialized laboratory services and community based sickle cell services are also provided through the grant program. Table 1 outlines the organization and funding of the service network.

Clinical Services

Clinical services are provided by the university affiliated teaching hospital medical genetics units at major medical centers. Each center provides comprehensive state-of-the-art clinical genetic services in-

Table 1. Organization and Funding of Genetic Services in Maryland

Functional Unit	Allocation*/Source	Services Provided
DHMH Core Unit	$310,000/state general funds	• newborn screening • metabolic disorder case management • birth defects program • AFP testing • hemoglobinopathy screening • educational programs • referral service • consultation for local health departments • liasion and administration
Hemoglobinopathy case management	$182,000/SPRANS grant	• computerized registry • hemoglobinopathy screening follow-up • genetic counseling at outreach clinics • case management • educational programs
Grant program	$400,000/MCH block grant funds $25,000/state general funds	• genetics center services at 4 centers • outreach clinics at 14 sites • laboratory monitoring for metabolic disorder • community-based sickle cell services (education, screening, counseling) • medical follow-up of patients with abnormal AFP tests (general funds)

* per year

cluding diagnostic evaluations, treatment, long-term medical management, and genetic counseling. Each center has a prenatal diagnostic program. Cytogenetic and biochemical genetic laboratory services also are provided. The DNA diagnostic laboratory is located at the Johns Hopkins Medical Institutions, and the organic acid screening laboratory is at the John F. Kennedy Institute. Services at the centers are provided by American Board of Medical Genetics certified MD clinical geneticists, PhD medical geneticists, and genetic counselors. Each center provides weekly genetics clinics and inpatient consultation at its own medical center and for affiliated community hospitals. There are currently four clinical genetics centers in the network: Johns Hopkins Hospital, University of Maryland Hospital, Greater Baltimore Medical Center (in the Baltimore area), and Children's Hospital National Medical Center (in the Washington, DC metropolitan area). All the centers see patients of all ages, but the Moore Clinic at Johns Hopkins is oriented primarily toward adults and the other units are oriented primarily toward children. Prenatal diagnostic patients are usually seen in separate facilities or scheduled separately. Although Children's Hospital National Medical Center is located outside Maryland, it is still the most convenient referral center for many families living in the counties surrounding Washington, DC and in southern Maryland. Approximately one third of the patients seen there are Maryland residents.

There are currently 14 genetics outreach clinics. Each one is unique, designed to meet local needs and preferences. Each meets approximately every other month, and each is staffed by personnel from one of the genetics centers. Diagnostic consultations, routine management for patients with genetic disorders, and genetic counseling, including prenatal diagnostic counseling, are offered. Should a patient require a subsequent trip into the genetics center for services that cannot be provided locally, the outreach team will coordinate that visit for the patient and his or her referring physician.

Referrals are welcomed from physicians, other health professionals, education and social work professionals, and genetic disease related voluntary groups. Self-referrals are also welcomed and receive the same serious consideration as other referrals. Approximately one third of all patients are self-referred. The clinic/center system serves approximately 8,000 people each year.

The system bills for its services, accepting private insurance, Medical Assistance, Children's Medical Services' subsidies, and other forms of third-party payment. Patients without third-party coverage are billed on the DHMH sliding fee scale. All providers will arrange liberal payment schedules. No patient is ever turned away for inability to pay. All fees are collected by the unit providing the service and must be used to underwrite, expand, and improve the genetic services program.

The Figure shows the location of the genetics centers and outreach clinics. Table 2 lists the clinics, their tertiary center affiliations, and contact persons.

Newborn Screening

In 1965 Maryland initiated a statewide newborn screening program, becoming the second state to do so. The DHMH newborn screening laboratory does the testing for babies born in Maryland, as well as in Delaware and Bermuda, and for overseas US military dependents. Over 100,000 babies (approximately 70,000 of them born in Maryland) are tested each year.

The Maryland program tests infants for phenylketonuria (PKU), maple syrup urine disease (MSUD, also called branched chain ketoaciduria or BCK), homocystinuria, tyrosinemia, galactosemia, biotinidase deficiency, hypothyroidism, and sickle cell disease. Screening is voluntary and requires informed consent. The DHMH provides informational brochures and detailed consent forms to assist health professionals in obtaining informed consent. Although the program is voluntary, Maryland is among the top two states in compliance with newborn screening and has better compliance than do most states with mandatory screening programs. The DHMH does not charge for newborn screening.

Ideally, each infant is screened twice. Infants are screened initially after they have had 24 hours of protein containing (milk) feedings. A second screening is offered between 1 and 4 weeks of age.

Responsibility for obtaining the initial specimen is with the institution in which the child was born or (for the less than 600/yr out-of-hospital births) with the person reponsible for filing the birth certificate. If a child is discharged before he/she has had 24 hours of milk feedings, the initial screening will have to be repeated as soon as feeding has been established. The tests for hypothyroidism, biotinidase deficiency, sickle cell anemia, and one of the two tests done for galactosemia will be valid regardless of feeding status. However, the remaining tests, which look for the accumulated metabolites of substances that the child cannot appropriately metabolize, will not be valid if the child has not been fed.

All abnormal screening test results are phoned im-

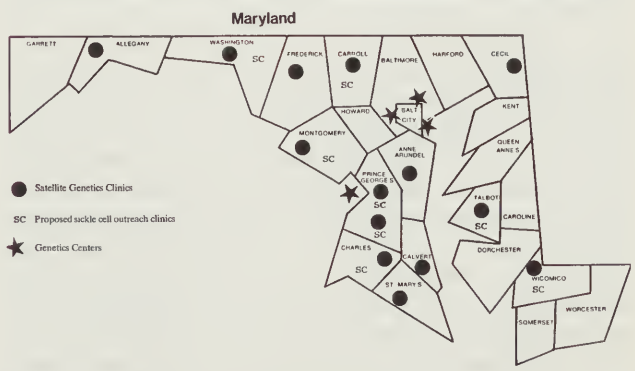


Figure.

Table 2. Maryland Department of Health and Mental Hygiene Outreach Genetics Clinics

Location	Contact Person	Tertiary Genetics Center
ANNAPOLIS		
Anne Arundel County Health Dept.	Sue Schneider RN, BS; 301-224-7177	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
CHEVERLY		
Prince George's County Health Dept.	Mary Robbins; 301- 772-1191	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
CLINTON		
Dyer Regional Health Center	Mary Robbins; 301- 772-1191	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
CUMBERLAND		
Allegany County Health Dept.	Juanita Nightingale RN; 301-777-5622	University of Maryland School of Medicine Division of Human Genetics, Baltimore, MD
EASTON		
Talbot County Health Dept.	Amnio - Judy Bacon CVS - Shirley Belschner 301- 328-3815	University of Maryland School of Medicine Division of Human Genetics, Baltimore, MD
ELKTON		
Cecil County Health Dept.	Norma Dempsey RN; 301-398-5100	Johns Hopkins University School of Medicine The Joseph Earl Moore Clinic, Baltimore, MD
FREDERICK		
Frederick County Health Dept.	Heatherlynn Gottert RN; 301-865-3311	University of Maryland School of Medicine Division of Human Genetics, Baltimore, MD
HAGERSTOWN		
Washington County Health Dept.	Sara Jean Hoyle; 301-791-3291	Johns Hopkins University School of Medicine Division of Pediatric Genetics, Baltimore, MD
LA PLATA		
Charles County Health Dept.	Lucy Richmond RN; 301-934-9577	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
LEONARDTOWN		
St. Mary's County Health Dept.	Betty Singer RN, BS Diane Skelley RN; 301-475-4330	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
PRINCE FREDERICK		
Calvert County Health Dept.	Barbara Rogers RN; 301-535-5400	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC
SALISBURY		
Women's Clinic Peninsula General Hospital	Merry Ferre; 301-328-3815	University of Maryland School of Medicine Division of Human Genetics, Baltimore, MD
WESTMINSTER		
Carroll County Health Dept.	Donna Devilbiss RN; 301- 876-2152	Greater Baltimore Medical Center Medical Genetics, Baltimore, MD
WHEATON		
Montgomery County Health Dept.	Judy Covich; 301-217-1850	Children's Hospital National Medical Center Dept. of Clinical Genetics, Washington, DC

mediately to the child's physician of record by the DHMH physician. Appropriate plans are made for a definitive diagnostic workup at any of the networks genetics centers. If the diagnosis is confirmed, plans for long-term management of the disorder are made. The major component of therapy for the inborn errors of metabolism is dietary. The program provides laboratory monitoring, the services of the metabolic specialists at the genetic centers and of the expert metabolic disease nutritionists at the DHMH, as well as genetic counseling. The special formulas for dietary therapy are available to eligible families through medical assistance; the Women, Infants and Children Food Program (WIC); and Children's Medical Services (CMS). The formulas are available to other families at DHMH cost through CMS. The DHMH writes to the companies of patients with medical insurance explaining the disease and the medical necessity for the formula, but many companies cannot be persuaded to cover special formula costs. Other services, such as psychometric and developmental monitoring are available on a referral basis. Families also are referred to the appropriate family support group. The DHMH nutritionists provide coordina-

tion and case-management services for these children, as desired by the child's pediatrician, and currently follow 157 metabolic disorder patients.

Infants identified as having congenital hypothyroidism may be referred to pediatric endocrine consultants at major university teaching hospitals.

Newborn screening is one of the most cost-effective public health genetics programs with at least $93,000 in additional health care costs averted per case detected and treated, according to the Office for Technology Assessment of the US congress.[3] In human terms, however, the program is invaluable, allowing 15 to 20 affected children each year to grow and develop normally to become productive citizens rather than mentally and neurologically impaired patients in institutional care.

Hemoglobinopathy Programs

Newborn infants are screened for sickle cell anemia as part of the newborn screening program. A federal grant from the Bureau of Maternal and Child Health and Resources Development (#MD 890502-0310) has made possible the implementation of a follow-up system for infants with abnormal newborn sickle cell screening results. The physician of record at the hospital of birth and the family are notified of abnormal results by the hemoglobinopathy program nurse coordinator. Arrangements are made for confirmatory testing and a definitive evaluation of confirmed cases by a pediatric hematologist. Prophylactic penicillin is started before four months of age.[4] If the child has no regular source of primary pediatric care, the program will find the family a pediatrician. The program also provides each family with the opportunity for genetic counseling. CMS will cover primary care, all recommended vaccinations and medications, as well subspecialty care for eligible sickle cell patients up to three years old. Coverage for older children is considered on a case-by-case basis. Working with the pediatric hematology community and the Maryland Chapter of American Academy of Pediatrics, recommendations for the medical management of pediatric sickle cell disease consistent with the NIH guidelines have been developed.[5] Coordination of care, as desired by the pediatrician, is provided by a community health nurse who serves as case manager in the child's local community. Social and community support and educational services for families are provided by two community based sickle cell organizations, ASSERT, Inc. (the Association for Sickle Cell Services, Education Research and Treatment, Inc.), and the Maryland Chapter of the National Association for Sickle Cell Anemia. Together the groups reinforce genetic counseling and medical information, and provide home visits, parent and patient support groups, a summer camp and field trips for young patients, tutoring for school-age patients, and much needed emotional support. Ongoing pediatric hematology consultation for the patients is available, as desired by the child's pediatrician, and on a yearly basis through the regular visits of the pediatric hematologist to the outreach genetics clinic in the patient's community. (Alternatively, the patient may visit the hematologist's office, if that is more convenient.)

This is a young program, but the results are encouraging. Since the beginning of the program in July 1985, over 200 children with sickle cell disease have been identified and none have died as a consequence of their sickle cell disease. Unfortunately, since the loss of a program previously funded by the Maryland Chapter of the National Association for Sickle Cell Anemia and implemented through several major hospitals in the state, there is no comparable case-management program for adults.

The DHMH provides free hemoglobin screening to approximately 21,000 older children and adults yearly through the Hemoglobin Disorders Laboratory. The screening of high-risk children is part of the EPSDT (Early Periodic Screening and Developmental Testing) protocol, and it is standard-of-care to offer hemoglobin screening to maternity and family planning patients receiving state-sponsored care. Genetic counseling and prenatal diagnosis are available to couples at risk for having offspring with sickle cell disease.

Alpha-fetoprotein Screening

The DHMH Alpha-fetoprotein (AFP) Screening Program for Improved Pregnancy Outcome offers free AFP testing to all maternity patients receiving state-sponsored prenatal care. Samples on other patients who are unable to obtain testing from the private sector are also accepted. The simple noninvasive blood test is drawn between 16 and 18 weeks gestation. As with all genetic tests, participation is entirely voluntary and requires informed consent. Brochures and consent forms are available to assist the health professional in discussing the test with patients. The program includes laboratory, follow-up, and counseling components. As is well known, elevated levels of maternal serum AFP are associated with neural tube defects, ventral wall defects, and a variety of other birth defects. Low levels of maternal serum AFP are associated with some chromosomal anomalies, notably Down syndrome. Elevated AFP levels, in the absence of definable fetal defects, also may be associated with an increased risk of pregnancy loss, prematurity, or low birth weight.[6] Since interpretation of test results is complex, dependent on gestational age and numerous fetal and maternal factors, abnormal test results require careful evaluation and further testing. Abnormal test results are, as in other genetic testing programs, immediately phoned to the referring physician by a physician or nurse from the program. Consultation with respect to the timely arrangement of appropriate follow-up testing is offered. Follow-up testing, including specialized sonography or amniocentesis, and genetic counseling is available at the genetics centers. Follow-up services for patients recev-

ing state-sponsored maternity care are available through the Division of Human Genetics at the University of Maryland. The program serves approximately 12,000 patients each year.

Birth Defects Reporting and Information System

Title 18, Section 206 of the *Annotated Code of Maryland* requires hospitals to report to the DHMH infants born with any of the 12 specific birth defects specified by the World Health Organization. This program collects data on the incidence of such defects in Maryland. The data are used in epidemiological, etiological, and clinical service-delivery related studies. A previous *Maryland Medical Journal* article describes the system in detail.[7] The major use of the data at present has been to improve the allocation of state resources by building a better profile of which services are needed, and in what numbers, in each geographical area.

In addition, the program offers information about birth defects and about the services available to children with such defects and to their families. It offers brochures on the various defects and on the more general problems of having a child with a birth defect, which health professionals may find useful for their patients. The most popular are: *Special Information about Special Babies*, for parents whose children have a good prognosis; *Parenting the Child with a Serious Birth Defect - You Are Not Alone*, appropriate for families when there is a poor or guarded prognosis; and *Questions, Answers and Help for Parents After Stillbirth or Infant Death*, for families who have lost a baby. For many birth defects, the program relies on the excellent materials produced by the March of Dimes. There is no charge for the informational or referral services of the program. Approximately 500 families are served each year.

Educational Services

The Division of Hereditary Disorders, DHMH, offers an active educational program for health professionals and lay groups and has been working with science teachers throughout the state to enrich the genetics curriculum in the public schools.

The Division both responds to requests to provide particular programs for interested groups and presents regular cycles of programs for its traditional audiences. Maryland is fortunate to have a concentration of eminent geneticists at local institutions, and the Division is, therefore, able to attract distinguished speakers for many of its programs. There is no charge for the program's educational services.

Working with Voluntary Groups

From the public health perspective, one of the most important recent developments in genetics is the increase in the number and activity of genetic disease voluntary groups. The Maryland genetics network exists primarily to provide services to patients with genetic disorders and to their families. The genetic disease voluntary organizations are invaluable and energetic partners in this endeavor. These groups usually consist of patients, their families and friends, and other individuals interested in a particular disorder or related group of disorders. They have (at least) three unique contributions to make to the professional-voluntary partnership in support of the patient.[8, 9]

First, they can extend the services that health professionals provide. In a voluntary group, the health professional finds a dedicated group of people who have, through experience, become very knowledgeable about a particular disorder and its problems. Reputable voluntary groups are an excellent resource for reinforcing the physician's explanations and instructions to the patient or for assisting a new patient in complying with a complex medical regimen. They can sometimes spend hours working on an issue with a patient while the physician can only spend a few minutes. Further, they can "validate" what the health professional says. Hearing the mother of another child with a given disorder say that the medication is important and that it really helped her child makes a much stronger impression than a health professional's biochemical explanation. The voluntary group members can give emotional support in a unique way. They, too, have been there. They will often develop resources or work on important nonmedical problems associated with the disorder such as appropriately fitting clothing for patients with skeletal dysplasias or appropriate schooling for youngsters with disorders affecting intellectual development.

Second, voluntary groups are terrific advocates for proper funding and resource allocation for both clinical services and research on "their disorder." They also advocate programs of general interest to the entire genetics community. Many genetic disorders are rare, and at some point in setting priorities for the allocation of funds, issues of "the greatest good for the greatest number" arise. Therefore, voluntary groups have recently begun to form alliances to increase the effectiveness of their advocacy programs.[10] They have found many issues of common interest such as medical insurance coverage. A national coalition of genetic voluntary groups, the Alliance of Genetic Support Groups, based in Washington, DC is beginning to have a significant input on federal health care financing issues. NORD (the National Organization for Rare Disorders) has been instrumental in the passage of the orphan drug legislation which is intended to promote the development of drugs for rare disorders. Such drugs, because of their small potential market, would ordinarily not be cost effective for a pharmaceutical company to develop. Sometimes voluntary groups directly fund grants for clinical services or research. Although such grants are usually small, they often provide the seed money for preliminary studies

enabling the professional to apply for major funding elsewhere.

Third, voluntary groups have much to teach health professionals. Not only can they teach us to avoid inadvertent insensitivity in our dealings with patients, but also they may have very useful data bases to share. For the specialist, they may have valuable patient registries, useful in locating persons interested in participating in epidemiological studies, syndrome delineation studies, clinical trials, or basic research projects. For the general practitioner they may have textbook level material, lists of consultants, bibliographies, or literature summaries on various diseases that are useful when faced with a puzzling diagnostic problem.

The physician caring for a patient with a genetic disorder or a rare disease may wish to refer the patient to the appropriate voluntary group. Such groups may offer emotional support, peer counseling, patient or parent discussion groups, much practical advice in coping with the myriad effects of the disorder, literature about the disease written for patients (and sometimes for professionals), summer camps or social events for affected persons, tutoring, small grants to cover medical expenses or equipment, and so on, and a sense of belonging to a caring community. Of course, voluntary groups vary in the range services they offer, as well as in their effectiveness, stability, and sophistication. The Division of Hereditary Disorders, DHMH; the Alliance of Genetic Support Groups[11]; NORD[12] ; or the National Center for Education in Maternal and Child Health (NCEMCH)[13] can assist the physician in locating a reputable and appropriate voluntary group. NCEMCH has published a directory of such groups.[14]

Cost of Genetic Services to Patients

The members of Maryland genetics network work cooperatively to provide genetic services to the population and have worked to make high quality, cost effective services available. However, the network's goals will not be achieved unless the services can be utilized by those who would benefit from them. Potential patients face (at least) three major types of barriers to obtaining services: educational or attitudinal barriers, geographical barriers, and economic barriers.

The network attempts to overcome educational barriers on the part of potential patients through its various brochures and lay educational programs, especially its new public school genetics curriculum. It is hoped that by introducing human genetics into the school curriculum, an entire generation of young people will emerge with an understanding of genetic disease and of the capabilities and limitations of medical genetics. Knowledgeable people will be more accepting of those members of our population who are affected by genetic disorders, will recognize when medical genetic services could be of potential benefit to themselves, and will not feel there is any stigma associated with the use of such services.

The network has attempted to overcome geographical barriers to accessing services by providing services through a system of 4 centers and 14 outreach clinics. The most commonly needed clinical services usually can be provided in a prospective patient's community or a nearby community.

Unfortunately, economic barriers to obtaining genetic services are difficult to overcome. The network attempts to minimize economic barriers to service by merging the contributions of state government, federal government, university medical centers, and voluntary organizations into a program of services that no one sector could provide alone. The DHMH provides screening and informational services free of charge and contributes coordination and case-management services for some high-risk individuals. Medical assistance and CMS contribute to the ongoing medical care of eligible patients. A sliding-fee scale for those services available through the outreach clinic network is in place for patients without third-party coverage.

The partial subsidy structure of the grant program allows extremely cost-effective use of available governmental funding. Nevertheless, access to some genetic services will be limited for some potential clients because of economic reasons. Often third-party reimbursement does not cover the full cost of obtaining or providing the services. Three projects funded through the federal Department of Health and Human Services recently studied reimbursement issues in genetics, defined the current problems, and offered some solutions.[15] Many of the problems studied are issues in any area of health care, but some are unique to genetic services delivery.

Historically, clinical genetic services have been subsidized by research and service grants and, in the past, patients were not charged directly. As these services (such as diagnostic evaluation, chromosome analysis, and amniocentesis) became incorporated into routine medical care, federal, state, and foundation subsidies declined and patients were increasingly expected to pay for the services. Fortunately, genetic services have remained accessible to many patients because third-party payers, including medical assistance, have begun to provide some coverage.

Genetic services emphasize patient education and regularly involve the participation and possible testing of many family members. Therefore, from the provider point of view, genetic services are labor and time intensive. Typical charges for some genetic services (obtained by surveying Maryland providers) are outlined in Table 3. The charges for the cognitive services (diagnosis, management, and counseling) are rarely high enough to cover the personnel costs incurred in providing the services, and the actual payment received is typically less than 80 percent of the amount charged.[16] Some commonly provided clinical genetic services, such as genetic counseling, are not covered by many third-party payers, including the

Table 3. Typical Charges for Genetic Services

Service	Charge
Comprehensive new patient clinical genetics consultation	$250
Intermediate (follow-up) consultation	80
Genetic counseling	125
Chromosome analysis - peripheral blood	450
Chromosome analysis - amniotic fluid or chorionic villus	650
Amniocentesis - procedure charge only	350
Chorionic villus sampling - procedure charge only	350

Maryland Medical Assistance Program, because the professionals who provide counseling (master's level genetic counselors) are not licensed and generally not considered as reimbursable providers by third-party payers. Therefore, genetic services are rarely self-supporting.[16]

The extent to which economic factors affect genetic service accessibility and utilization has not been well studied. Although federal and state officials have long advocated that genetic services, especially newborn screening and AFP testing, should be available to all persons regardless of ability to pay, government funding for the services has been inadequate in many areas of our country.[17] For the consumer who has or is at risk for a genetic condition, obtaining genetic services usually depends on having adequate health insurance coverage for the services needed or otherwise being able to afford them. Whether individuals who have or who are at risk for a genetic condition are disproportionately uninsured or underinsured is unknown.[18] There are many anecdotal reports of individuals who are denied insurance because of a preexisting genetic condition. For insured individuals, many needed medical services, such as DNA diagnosis or genetic counseling, may not be covered by insurance. Serious gaps in coverage may result in inadequate treatment or service inequities. For example, newborn screening for inherited metabolic disorders may be offered free of charge, as it is in Maryland, but the special formulas required by the affected children may not be covered by insurance. In many other states, prenatal diagnostic services for indigent women are covered through Medical Assistance, but the termination of an affected pregnancy diagnosed through amniocentesis is not a covered service.[19]

Maryland is fortunate in both the comprehensive nature of the genetic services available in the state and in their relative accessibility, however, much work remains to be done to ensure that each of Maryland's citizens receives optimal genetic services.

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Gaps in Service: Patient/Family Perspective

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Findings from a national survey of members of 15 genetic support groups indicate difficulties in obtaining desired genetic information because of delays in finding appropriate professional resources, lengthy travel time to those resources, financial costs, and limited flexibility in appointment schedules. Genetic disorders spawn a wide variety of needed services in the community, with supportive counseling, budget/financial planning, and help with applications to government programs least likely to be received when needed.

The 1970s and 1980s have witnessed a rapid and impressive growth in genetic information, technologies, and clinical programs. With these developments has come recognition of the complex service needs generated by many genetic disorders and remaining gaps in delivery of genetic and related services.

On further consideration, it becomes clear that the concept of a "gap in service," which emphasizes a lack of specific programs or resources, is itself inadequate for explaining the problems that genetic patients and their families experience in getting needed services. It also is helpful to consider the issue of "access," that is, looking at the varied factors that influence both whether patients can obtain available services (barriers to access) and whether patients can make optimum use of services they do receive.

We will consider the question of gaps in genetic and related services by looking at difficulties patients experience in obtaining services as well as problems they encounter due to the manner in which those services have been provided. We also look at some efforts under way to address the identified problems.

Materials and Methods

The main data presented here come from a survey of members (hereafter, the members' survey) of organizations in the Alliance of Genetic Support Groups as of January 1988. A total of 15 out of 24 groups (62.5 percent) participated in the project, and questionnaires were completed by 33 percent (n=931) of the people on their mailing lists. Return rates varied from virtually no response by members of two organizations for sickle cell disease, up to 60 percent from members of the Mucopolysaccharidoses Society.

(See Appendix for a complete list of organizations in the members' survey and their return rates.)

Respondents were largely female (726; 78 percent), Caucasian (873; 94 percent), currently married (721; 78 percent), working outside the home (571; 63 percent), and at least partially college educated (583; 63 percent). The majority were parents of affected children (665; 74 percent), although close to one third (299; 32 percent) had a genetic disorder themselves, and 95 (10 percent) reported both they and one or more children had a genetic disorder. Overall, 774 (83 percent) either were parents of affected children and/or had the disorders themselves.

This sample thus does not fully represent the needs of adults with genetic disorders, experiences of persons from racial or ethnic minority groups, or the unemployed and less-educated patients who have genetic disorders. Nevertheless, it does provide a look at the experiences of a large, national sample of genetic patients and their families, people who have been able to make contact with a relevant voluntary genetic organization.

Although they are likely to be among the more "successful" in obtaining services, their difficulties also can alert us to the possibly greater problems encountered by patients with fewer resources at their disposal.

Table 1. Barriers to Receiving Genetic Information (n=931)

Barrier	Very Much a Problem (percent)	Some Problem (percent)	Little / No Problem (percent)	No Reply (percent)
Limited professional knowledge	53	24	18	5
Difficulty finding genetic information	27	31	35	7
Lengthy travel time to professional sources	24	27	39	10
High financial costs/ lack of insurance	24	21	42	13
Lack of flexibility in appointment scheduling	7	19	58	16

Table 2. Satisfaction with Genetic Services (n=931)

Service	Very (percent)	Somewhat (percent)	Not at All (percent)	No Reply (percent)
Warmth, empathy interest	48	30	14	9
Conduct of physical exam	47	32	11	11
Length of time	42	37	13	9
Communication	41	34	16	10
No. appointments	40	36	12	12
Extent concerns addressed	39	36	15	10

Obtaining and Using Genetic Services

Participants in the members' survey were asked to respond to a series of questions that addressed possible informational as well as more concrete barriers to obtaining the genetic information they wanted. As shown in Table 1, limited professional knowledge about specific disorders often was recognized as the limiting factor in a family's quest for information. However, difficulties in locating appropriate professional resources created problems for many. In addition, such practical issues as lengthy travel time to reach professional sources, financial cost, and lack of flexibility in appointment scheduling also to some degree obstruct access to obtaining desired amounts of genetic information.

As shown in Table 2, the majority of respondents were at least somewhat satisfied with the manner in which professionals had provided them with genetic information and related services. Their positive ratings included both the structure of services, the number and length of appointments, as well as the manner in which professionals provided information, conveyed interest and warmth, addressed clients' concerns, and conducted physical examinations. However, these positive evaluations should be viewed in the context of the 12 to 18 percent of respondents who were not at all satisfied with these same aspects of genetic service delivery.

Qualitative review of written comments confirmed their generally positive experiences with genetic services, punctuated by pointed descriptions of distressing and stressful encounters. Too often difficulties in finding knowledgeable health professionals had created long delays in finding appropriate treatment, and in some instances families reported bearing additional affected children before becoming aware of any genetic risks associated with the first child's disorder. Many families had felt forced to do much research on their own to locate appropriate specialists. Indeed, families often became more expert about the disorder than their primary care physicians and other therapists. Some believed genetic counselors had been directive and perhaps judgmental in urging them to have no additional children. Others said they thought they or their loved one had been viewed as a "guinea pig" or as a "disease not a person."

Living with Genetic Disorders: Obtaining and Using Services

Genetic diagnoses often precipitate both acute and chronic stresses that can have an impact on individual and family functioning and generate a variety of service needs over time.[1]

Table 3 summarizes responses about a range of possible service areas listed by the frequency with which

needed services were **not** received. Although these data show the majority of respondents either did not need a given service or were able to obtain it, the services of supportive counseling, budget/financial planning, and help with applications for various government programs were more likely not to be received by those who needed them. Many other services were needed but not received by a minority of respondents. Although the specific ordering of Table 3 would change depending on the particular needs of each genetic disorder, these responses do confirm the frequency with which genetic patients and their families use a wide range of community resources and the persisting difficulties some families face in obtaining what they need.

In written comments respondents elaborated on the struggles they sometimes encountered before obtaining needed services and the sometimes less-than-satisfactory nature of services received. Most frequently described were difficulties in obtaining approval for Social Security Disability and other government and insurance entitlements, often due to officials' lack of knowledge about rare genetic disorders and their consequences. Individual and family stresses because of the costs generated by the illnesses also were noted with some frequency.

Programs that could provide respite and/or home care were described with notable urgency as inadequate or unavailable. Moreover, even for the many who reported successfully obtaining services, the time and energy required to located and arrange for those services often became additional burdens of the disease. As result of their experiences, respondents called for professionals to stay up-to-date about rare disorders in their patients, to listen to patients' and families' concerns and viewpoints, and to take responsibility for helping families with referrals to other specialists, mental health resources, support groups, and any other pertinent providers.

Filling the Gaps

Initiatives now under way attempt to address some of the service difficulties families have identified. While an exhaustive review of these efforts is beyond the scope of this article, a few highlights will illustrate these positive developments.

The ten Regional Genetics Networks, established under the auspices of the Office of Maternal and Child Health, Bureau of Maternal and Child Health and Resources Development, Department of Health and Human Services, provide an important base for coordinating genetic services. Each network links the genetic programs in the states of that region, and all come together under the Council of Regional Networks for Genetic Services (CORN). Priorities of CORN include enhancing the quality of genetic services, genetic education, networking, laboratory quality assurance, and uniform data gathering. Maryland is represented in the Mid-Atlantic Regional Human Genetics Network (MARHGN), which publishers a regular newsletter reporting on events and programs in the region.

The Office of Maternal and Child Health also supports the National Center for Education in Maternal and Child Health. The Center was established in 1982 with a mission to provide information services, educational materials, and technical assistance to organizations, agencies, and individuals with maternal and child health interests. The Center publishes a specialized directory of voluntary organizations for genetic disorders in addition to a directory of a wider variety of organizations related to maternal and child health.

The March of Dimes Birth Defects Foundation and the Office of Maternal and Child Health have combined resources in recent years in a series of projects designed to highlight the comprehensive service needs of families with genetic disorders and the important contributions being made by genetic support groups.

Table 3. Services Frequently Unavailable to Respondents (N=931)

	Needed but Not received (percent)*	Needed and Used (percent)*	Not Applicable (percent)*
Supportive counseling	35	33	32
Budget/financial planning	30	14	56
Applications	28	25	47
Help obtaining insurance	24	24	52
Recretional programs	21	16	63
Home care	20	19	61
Child care	18	20	62
Counseling by clergy	16	26	58
Respite care	16	20	64
Educational planning	15	48	37
Early intervention programs for infants/toddlers	14	33	53
Vocational/rehabilitation services	13	14	73
Occupational therapy	12	36	52
Physical therapy	11	51	38
General medical/dental care for affected individuals	11	77	13
Family planning	10	12	78
Speech therapy	8	33	59
Special education	6	40	54
Nursing home placement	5	4	91
Foster care, adoption, residential placement	3	5	92

*Percentages were calculated as proportion of answered items. Nonresponses (not shown) varied from 4 to 8 percent across items.

The first such project was a major national conference, "Genetic Disorders and Birth Defects in Families and Society: Toward Interdisciplinary Understanding," held in 1983 in Baltimore.[2] This meeting brought affected individuals and families together with geneticists, psychologists, social workers, nurses, and the many others who provide services for families with genetic disorders. The success of this meeting paved the way for a second conference, also supported jointly by the March of Dimes Birth Defects Foundation and the Office of Maternal and Child Health. "Genetic Support Groups: Volunteers and Professionals as Partners," held in June 1985, in Washington, DC, assembled participants from over 92 different support groups, serving at least 55 different disorders.[3] Professional enthusiasm for the event was so high that attendance by professionals had to be limited to maintain the desired majority of support group members. A survey of conference participants[4] confirmed the significant contributions being made by the genetic organizations and their interest in working with professionals to improve services.

An immediate outgrowth of these conferences was the formation in 1985 of the national Alliance of Genetic Support Groups (hereafter, the Alliance). Its stated purpose is to promote optimum health care and social and psychological functioning for individuals and families affected by genetic disorders. By strengthening collaboration and communication between consumers and providers of genetic services, the Alliance seeks to increase awareness about genetic disorders, to improve the availability and accessibility of high quality genetic services, and to enhance education about the needs of affected individuals and families.

The Alliance has set as a current priority the establishment of linkages between the Alliance and voluntary, governmental, and professional organizations concerned with genetic services at local, state, regional, and national levels. Special emphasis is being given to strengthening ties between the Alliance and the Regional Genetics Networks throughout the country.

Other specific plans of the Alliance include establishing a subcommittee on Service to Adoptive Families that will develop linkages between adoption agencies, adoptive families, and genetic services. They also will sponsor a workshop at the annual meeting of the American Society of Human Genetics in November 1989, "Genetic Support Groups: A Partnership of Families and Professionals," which will focus on ways consumers and professionals can work together on such shared concerns as promoting responsible and ethical research activities, developing patient support services to supplement basic medical care, and advocating for more equitable reimbursement policies and health care financing.

Conclusions

The data here describe the experience of a large, national sample of patients and families who are living with genetic disorders. Their responses highlight the reality that although gaps in genetic and community services often are the result of limited funds for specialized services and training, such gaps are only part of the story. There also are major gaps in our current system's ability to link people with rare genetic disorders to the most qualified professionals.

Admittedly, genetic and medical knowledge remains quite limited for all-too-many disorders, and for families with those disorders no amount of searching will uncover "an expert." However, survey respondents more often said that although they eventually found knowledgeable professionals, their successes came only after long, arduous searches and encounters with inappropriate providers. For some families, this struggle occurs at the first stage of trying to obtain a correct diagnosis; other spend years before they find educators or therapists skilled in working with patients with certain disorders. Such efforts require personally costly expenditures of a patient's or parent's time, emotional energies, and money. Moreover, the patients and family members who joined genetic support groups and who answered this survey generally were those who eventually had found the correct genetic diagnoses and treatments. How many families never obtain appropriate care remains unknown.

It is beyond the scope of the present investigation to attempt to explain the underlying causes of the service gaps noted by respondents. However, patients with the life-long conditions generated by genetic disorders share with other chronically ill patients the burden of negotiating the still highly fragmented, specialized, and acute-care oriented health care system of the United States.[5,6,7] Current initiatives to improve genetic services, such as the Regional Genetics Networks and the Alliance of Genetic Support Groups, appear as hopeful signs because they recognize the complex challenges involved in developing a truly comprehensive system of services for patients and families with genetic disorders. These efforts call for the work of a trio of participants: genetic specialists, community professionals, and genetic support groups.[8] Working together as colleagues in local, state, regional, and national services networks and advocacy coalitions, this trio will make progress in filling the gaps.

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Appendix

Organizations Participating in the Members' Survey

Group	Returned	Return Rate * Percent
Central MD Sickle Cell	1	--
Cystinosis F.	22	20
Ehlers Danlos Nat'l F.	120	49
Freeman-Sheldon Group	12	40
G.I. Polyposis Newsletter	61	25
Glycogen Storage Dis.	75	37
Hemophilia F. of IL	60	24
Int'l Rett Syndrome	144	59
Long Island Sickle Cell	11	5
Lowe's Syndrome Assoc.	23	39
Nat'l F. Ectod. Dysplasias †	13	27
Nat'l Marfan F.	108	46
Nat'l MPS Society	150	60
United Leukodystrophy F.	94	38
Wilson's Disease Assoc.	37	15
Total	93	33

* Return rate calculated after ineligibles and post office returns were subtracted from original number sent out.
† Questionnaires distributed at annual conference.

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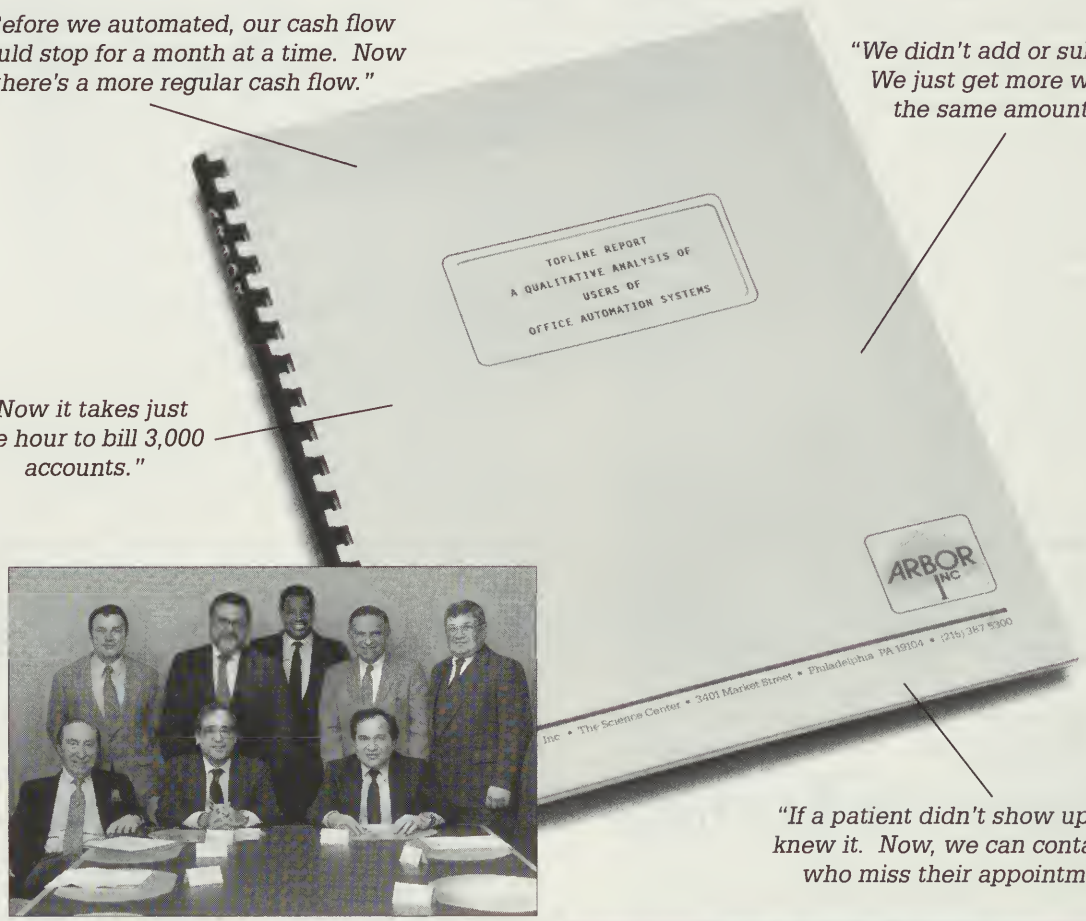
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Prenatal Genetic Concerns

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The obstetrician-gynecologist is in a unique position to provide information to couples with prenatal genetic concerns. However, all health care providers should be aware of the available standard genetic screening tests as well as special studies that may be indicated for the pregnant patient.

The role of the prenatal caregiver is to provide education to patients believed to be at increased risk of having a child with a congenital anomaly. The population risk for major congenital anomalies is approximately 3 percent, about half of which are evident at birth. The remainder are discovered later in childhood or, more rarely, in adulthood. Patients at increased risk need assessments of that risk; information concerning availability, specific risks, and benefits of testing; and, above all, support for decisions reached after comprehensive counseling.

Family History Analysis

Questions about familial occurrence of disease are an important component of any complete medical evaluation. The initial preconceptual or prenatal history should focus on this point. In addition, inquiries should include both maternal and paternal families with specific information sought concerning the occurrence of miscarriages, fetal and/or neonatal deaths, congenital anomalies, or mental retardation.

A history of unexplained, spontaneous, multiple miscarriages prompts concern that one of the parents could carry a balanced translocation. In approximately 7 to 10 percent of couples with two or more miscarriages, one member is a translocation heterozygote. This information is vital in planning comprehensive prenatal testing.

Even following an exhaustive investigation, fetal and neonatal deaths are often difficult to explain. Nonetheless, all records from previous losses must be scrutinized to extract any additional information that could prove helpful in preventing a recurrence. Three genetic mechanisms may operate to lead to poor pregnancy outcome. If a previous fetal or neonatal death were due to autosomal trisomy, then the risk of having a second child with a trisomy will be approximately 1 to 2 percent. A second concern is a Mendelian or single-gene disorder with recurrence risks that are much higher.

Autosomal recessive disorders will impose a 25 percent recurrence risk on couples and include such disorders as infantile polycystic renal disease, the lethal type of multiple pterygium syndrome, and Meckel syndrome (CNS abnormalities, dysplastic renal disease, and polydactyly). The number of autosomal recessive disorders leading to fetal and neonatal death is quite large and underscores the importance of performing detailed evaluations of fetuses and infants that are lost in the perinatal period. A third consideration is polygenic or multifactorial disorders (Table 1). Many of the physical abnormalities associated with multifactorial inheritance are also seen in infants with either chromosome abnormalities or Mendelian disorders; exclusion of these causes is important before deciding that a disorder is multifactorial. Following the birth of one child with a multifactorial condition, the recurrence risk in future pregnancies is 1 to 5 percent.[1]

The causes of mental retardation (MR) are multiple and can result from the three genetic mechanisms already discussed: chromosome abnormalities (numerical and structural), Mendelian syndromes, and multifactorial disorders. Brief consideration should be accorded the Fragile X syndrome, which may account for up to 25 percent of MR in males. The fragile site on the X chromosome is most often noted in studies of the affected male. The carrier female frequently may be of normal intelligence and not demonstrate the fragile site on cytogenetic analysis. The exclusion of the Fragile X syndrome is best done by preconceptual identification of a family at potential risk (unexplained mental retardation in male family members) and doing the chromosome studies of the affected males.

A complete family history includes information about the health of all first-degree relatives (parents, siblings, and children), second-degree relatives (aunts, uncles, nieces, and nephews), and third-degree relatives (first cousins). Since few obstetricians in a busy practice have time to construct a three-generation pedigree, general screening questions are often useful to determine which patients may be at increased risk. Some practitioners obtain this information by asking that patients fill out a form that is integrated with other historical information.

It is important that the reaction to YES answers is appropriate. For example, if a patient states her sister has a child with Hurler syndrome (an autosomal recessive mucopolysaccharidosis), the risk for her child is very low (given a nonconsanguineous marriage) because the gene frequency in the population is quite low. This reasoning is correct with rare autosomal recessive disorders. If, on the other hand, the patient has a female maternal first cousin with a son with Hemophilia A (an X-linked recessive disorder), this patient will require further testing to help clarify whether she is a carrier of the gene.

The form or method of collecting family information from patients is less important than obtaining it with appropriate reactions to the positive answers that are elicited. If integrated into the collection of other historical information, the time spent can be minimized with a high yield for the at-risk patient.

Screening Tests

Several diseases are common enough in certain ethnic groups to warrant screening of couples who present for prenatal care. It is important to remember that while the gene frequency for the disease in question is higher among these specific ethnic groups, the gene also exists in other population groups. This explains the recommendation to screen couples even though only one individual may have originated from the ethnic group in question. Table 2 lists some diseases for which screening is available, the population groups most commonly at risk, and both the initial screening and definitive testing advisable.

Table 1. Polygenic / Multifactorial Traits

Hydrocephaly (exceptions include some forms of aqueductal stenosis and Dandy-Walker syndrome)
Neural tube defects (anencephaly, spina bifida, cephalocele)
Cleft lip with or without cleft palate
Cleft lip (alone)
Cardiac defects (most types)
Diaphragmatic hernia
Omphalocele
Renal agenesis
Ureteral anomalies
Posterior urethral valves
Hypospadias
Mullerian fusion defects
Talipes equinovarus (clubfoot)

SOURCE: Simpson JL. Genetic counseling and prenatal diagnosis. In Gabbe SG, Niebyl JR, Simpson JL, eds. Obstetrics Normal and Problem Pregnancies. New York: Churchill Livingston, 1986:213.

Table 2. Genetic Screening

Ethnic Group	Disorder	Initial Screening Test	Definitive Screening Test
Ashkenazi Jews	Tay-Sachs Disease	Decreased serum hexosaminidase A	CVS or amnio for assay of hexosaminidase A
Black	Sickle cell anemia	Sickle prep with confirmation by hemoglobin electrophoresis	CVS or amnio for direct molecular studies
Greek-Italian	β-Thalassemia	MCV < 80% with diagnosis by hemoglobin electrophoresis	CVS or amnio for direct molecular studies or RFLP (indirect) analysis
Southeast Asian Filipino	α-Thalassemia	MCV < 80% with diagnosis by hemoglobin electrophoresis	CVS or amnio for direct molecular studies

Availability of AFP Screening on Maternal Serum

Beginning in the early 1980s, the first of a number of available genetic screening tests for the general obstetrical population came into popular use. Maternal serum alpha-fetoprotein (MS-AFP) testing has become a standard of obstetric care in most parts of the United States, including Maryland. MS-AFP testing was initially implemented in the United Kingdom and then in the United States as a method of screening for open neural tube defects. Additionally, the early diagnosis of ventral wall defects, multiple gestation, and incorrect gestational age were recognized as benefits of this screening.[2] More recently the association of low MS-AFP with Trisomy 21 (as well as other autosomal trisomies) has been recognized.[3] Interestingly, those patients with "unexplained" high MS-AFP levels appear to be at higher risk for other obstetric complications such as fetal death, intrauterine growth retardation, placental abruption, and preterm birth.

Alpha-fetoprotein is a 70,000 dalton glycoprotein produced in the human fetus as early as 29 days of fetal life. Its concentration in fetal serum rises rapidly throughout the first trimester and decreases in the late third trimester and neonatal period to essentially negligible levels. The function of AFP in the fetus remains unclear but it may be a precursor to albumin or have immunoregulatory functions.

AFP transudates from the fetal serum into the amniotic fluid and subsequently into the maternal serum in the early second trimester. In the early 1970s it was noted that maternal serum and amniotic fluid levels of AFP were increased in pregnancies affected by open neural tube defects.

Since the concentrations of AFP differ in various body fluids by several orders of magnitude and since levels vary greatly with gestational age, AFP values are most easily reported and considered using Multiples of the Median (MoM) for specific gestational ages. Each laboratory determines its own standards but any value equal to or greater than 2.0 to 2.5 MoM is usually considered elevated. A low AFP is usually considered as any value less than or equal to 0.4 to 0.5 MoM. MS-AFP values may need to be adjusted for maternal weight, presence of diabetes mellitus, multiple gestation, and race.

It is recommended that all obstetric patients be offered MS-AFP testing at approximately 16 to 18 weeks gestation. In the 5 percent of patients with elevated initial studies, a repeat study is recommended. In the 3 percent of patients in which both values are elevated, genetic counseling and ultrasound examination (to eliminate the possibility of multiple gestation, fetal demise, or incorrect gestational age) are indicated, and amniocentesis for determination of the more sensitive amniotic fluid AFP value and fetal chromosomes should be considered.

A low AFP value is usually not repeated but indicates the need for ultrasound examination and genetic counseling as well as the consideration of amniocentesis. By utilizing charts constructed to combine the risks associated with MS-AFP and maternal age, a single risk figure for Down syndrome can be given. This powerful tool allows the possibility of identifying 20 percent of all Down syndrome pregnancies in women under age 35. Research is now ongoing to identify additional parameters (such as maternal serum estriol or HCG) that may, in the future, identify an even larger proportion of aneuploid pregnancies.

Use and Indications for Ultrasonography

Without question, ultrasonography has revolutionized contemporary obstetrics. Its use has refined the assessment of gestational age, evaluation of fetal anomalies, and estimation of fetal growth and development. Ultrasound has enhanced the development of prenatal diagnostic techniques including amniocentesis, chorionic villus sampling, percutaneous umbilical blood sampling, and fetal intravascular transfusion.

In many countries, the use of screening ultrasonographic examination in pregnancy is common. The use of routine ultrasound in the United States has been attractive both to patients and medical professionals, but its cost effectiveness as a screening technique has never been proved.

Early confirmation of correct gestational age facilitates the management of post-datism and intrauterine growth retardation. The early ultrasonographic detection of fetal anomalies provides women and their doctors valuable information and time in which to choose the optimal management for mother and fetus.

In 1984 an NIH Task Force evaluated routine obstetric ultrasound and concluded there is no knowledge of risk associated with ultrasonography, but a hypothetical risk is possible. Therefore, ultrasound should be employed only in conjunction with a specific indication (Table 3). Many patients will, at some time during pregnancy, manifest at least one of these indications.

Concerns of "Advanced Maternal Age"

The most common referral for prenatal testing procedures is concern over advanced maternal age. The increased risk is for maternal nondisjunction and is engendered by the increased age of oocytes, which began their meiotic activity in the second to third month of fetal life. At the time of birth, mitosis in the female germ cells is complete and only the two meiotic divisions remain. Activity is arrested in the female until puberty when oocytes start the division process again and complete meiotic metaphase II at the time of ovulation. When fertilization occurs the meiotic process reaches completion.[4] The "lag" time spent arrested in meiosis increases the risk for nondisjunction in the oocyte and the birth of a child with a trisomy.

The standard medical practice is to offer prenatal diagnostic testing to women who will be 35 years of age or older at the expected date of confinement (EDC). Because frequency of cytogenetic abnormalities begins

Table 3. NIH Indications for Ultrasonography in Pregnancy

1. Estimation of gestational age for patients with uncertain clinical dates or verification of dates for patients who are to undergo scheduled delivery
2. Evaluation of fetal growth
3. Vaginal bleeding of undetermined etiology
4. Determination of fetal presentation
5. Suspected multiple gestation
6. Adjunct to amniocentesis
7. Significant uterine size / clinical dates discrepancy
8. Pelvic mass
9. Suspected hydratidiform mole
10. Adjunct to cervical cerclage placement
11. Suspected ectopic pregnancy
12. Adjunct to special procedures (CVS, Fetal Transfusion, etc.)
13. Suspected fetal death
14. Suspected uterine abnormality
15. IUD localization
16. Ovarian follicle development surveillance
17. Biophysical evaluation for fetal well - being
18. Observation of intrapartum events
19. Suspected polyhydramnios or oligohydramnios
20. Suspected abruptio placenta
21. Adjunct to external version from breech to vertex presentation
22. Estimated fetal weight and / or presentation in preterm labor or PROM
23. Abnormal serum AFP
24. Follow - up observation of identified fetal anomaly
25. Follow - up of identified placenta previa
26. History of previous congenital anomaly
27. Serial evaluation of fetal growth in multiple gestation
28. Evaluation of fetal condition in late registrants for prenatal care

SOURCE: Diagnostic Ultrasound Imaging in Pregnancy, NIH Publication No. 84-667.

Table 4. Chromosomal Abnormalities in Liveborns

Maternal Age	Risk of Down Syndrome	Total Risk for Chromosome Abnormalities *
20	1 / 1,667	1 / 526
21	1 / 1,667	1 / 526
22	1 / 1,429	1 / 500
23	1 / 1,429	1 / 500
24	1 / 1,250	1 / 476
25	1 / 1,250	1 / 476
26	1 / 1,176	1 / 476
27	1 / 1,111	1 / 455
28	1 / 1,053	1 / 435
29	1 / 1,000	1 / 417
30	1 / 952	1 / 384
31	1 / 909	1 / 384
32	1 / 796	1 / 322
33	1 / 625	1 / 317
34	1 / 500	1 / 260
35	1 / 385	1 / 204
36	1 / 294	1 / 164
37	1 / 227	1 / 130
38	1 / 175	1 / 103
39	1 / 137	1 / 82
40	1 / 106	1 / 65
41	1 / 82	1 / 51
42	1 / 64	1 / 40
43	1 / 50	1 / 32
44	1 / 38	1 / 25
45	1 / 39	1 / 20
46	1 / 23	1 / 15
47	1 / 18	1 / 12
48	1 / 14	1 / 10
49	1 / 11	1 / 7

SOURCE: Modified from Hook EB, Cross PK. JAMA 1983;249:2034 and Hook EB. Obstet Gynecol 1981;58:282.

* 47, XXX excluded from ages 20 to 32 (data not available) Because of sample size for some relatively small 95 percent confidence limits are sometimes relatively large. Nonetheless, these figures are suitable for genetic counseling.

an exponential rise above age 30, providing risk information to these younger women may be appropriate. Table 4 lists the risks of both Down syndrome and all cytogenetic abnormalities as related to maternal age.

Procedures performed to provide samples for prenatal diagnostic testing include both amniocentesis and chorionic villus sampling.

Amniocentesis is most commonly performed at 15 to 18 weeks gestation and involves needle aspiration of 20 to 30 cc of amniotic fluid from the 200 to 300 cc that occupy the intrauterine space surrounding the fetus. A realtime ultrasound examination should precede the procedure to determine fetal and placental position.

In most medical centers a fetal anatomic survey also is performed to rule out gross structural anomalies (although this is not considered obligatory). Simultaneous monitoring of the procedure with realtime ultrasound has been demonstrated to reduce the complications of bloody taps, dry taps, and multiple needle insertions. The amniotic fluid is forwarded to the laboratory for routine analysis of both amniotic fluid AFP and cell culture for assessment of fetal chromosomes. Other biochemical and molecular testing is available if indicated.

The safety of second trimester amniocentesis has been studied extensively since its introduction in the early 1970s. The US Collaborative Trial sponsored by the NICHD between 1972 and 1975 showed a pregnancy loss rate of 3.5 percent in the study group with a 3.2 percent pregnancy loss rate in the control group. This difference of 0.3 percent has been widely quoted as the "risk" associated with amniocentesis, although the loss rates between the groups were not found to be different when statistical analysis was done.

Subsequent studies by experienced investigators with high quality ultrasound equipment have shown procedure-related loss rates of 1 percent or less. Investigators have questioned the findings of the original NICHD sponsored study because the control loss rate was higher than expected. An exact value for risk of procedure may be difficult to produce as risks relate to technique and experience of the obstetrician performing the procedure. Many centers currently report the risk of spontaneous abortion secondary to genetic amniocentesis to be 0.5 percent or less but not zero or near to that.[5]

Chorionic villus sampling (CVS) also obtains a tissue sample that is used for determination of fetal

chromosomes as well as for metabolic and DNA assays. CVS, however, cannot be used to obtain information about AFP levels. The technique involves taking a small biopsy of the chorion frondosum (developing placenta) with either a transcervical catheter or transabdominal needle. The advantage of CVS is that it is performed in the first trimester of pregnancy, between 9 and 12 weeks gestation. In the great majority of cases the result is normal and the parents can enjoy a tranquil pregnancy. If a fetal abnormality is detected, the parents and physician have time to select the optimal course of management.

It is not clear which CVS technique is safest. There are currently ongoing trials in the United States. Preliminary US and European data suggest that transabdominal procedures are at least as safe if not safer than transcervical procedures.

The preliminary results from the NICHD-sponsored Collaborative Trial suggest that the risk of spontaneous abortion after CVS is 0.8 percent higher than if amniocentesis were performed. However, this report included only transcervical procedures with differences in risk related to the site of the procedure.[6] Like amniocentesis, CVS risks are dependent on technique and experience of the performing obstetrician. In many centers the risks of the two procedures are comparable. As experience grows and the role of transabdominal procedures is better defined, obstetricians will be better able to advise patients about possible choices. The current situation requires advising women of their options and the prevailing state of knowledge including information about risks and benefits of both amniocentesis and CVS.

Fetal Anatomic Defect

The discovery of a fetal anatomic defect is a situation that has few equals in the life of a pregnant woman. The immediate questions raised by most patients can serve as a guide in the subsequent evaluation and management.

How did this happen? The most appropriate response is to provide available information but not to hesitate in admitting that several possibilities exist and that further testing may be necessary to identify a precise cause. An example would be the fetus with a neural tube defect, most likely secondary to polygenic or multifactorial causes. However, since the possibilities of chromosome abnormalities and genetic syndromes exist, further evaluation might include a detailed sonographic fetal survey and obtaining an appropriate sample for chromosome analysis. It is important to remind patients that while ultrasonography is very helpful, it cannot provide the information that can be immediately obtained once the child is born and a thorough physical examination is performed.

How serious is this problem? When all the information obtained from detailed ultrasonography (often including fetal echocardiography) and fetal chromosome analysis is completed, it is appropriate to continue the discussion about prognosis. At this point, it is helpful to recruit the assistance of pediatric colleagues (including specialists, when appropriate) to further discuss the problem at hand and to acquaint them with the family as they will ultimately be managing the neonate after birth.

What are the options? When a woman decides to continue her pregnancy, prenatal care plans may be modified to facilitate delivering the neonate in a more appropriate setting including an intensive care nursery with pediatric specialists available. When a defect with a poor prognosis is discovered in the third trimester, it is important to discuss further obstetric care, including delivery, with the family.

The field of prenatal diagnosis of congenital anomalies is expanding rapidly. A comprehensive work-up of many abnormalities may include referral to a genetics center. Establishing an etiology, if possible, is necessary if accurate recurrence risks for future pregnancies are to be given. For the foreseeable future, the ability to diagnose fetal abnormalities will certainly surpass the capability for effective treatment. However, research treatment protocols are available for a small number of malformations including posterior urethral valves and diaphragmatic hernias. Clearly, the role of fetal therapy is still evolving with a need to critically assess the risks and benefits of intrauterine intervention.

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Assessment of Genetic Disorders: Pediatrics

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Genetic disorders are surprisingly common. With time, a genetic approach to human health and disease will be integrated into the practice of every clinician. The primary care physician is in the ideal position to provide genetic information to his/her patients and to orchestrate the care that many children with genetic disorders or birth defects require.

A knowledge of genetics and a sense of its value in patient care can be extremely beneficial to the pediatrician. The genetic approach to medicine takes cognizance of the absolute uniqueness of each individual and, in so doing, accommodates the wide variability of the same disease or condition when observed in separate people. The genetic explanation for individual variation is grounded in the molecular variations within and between genes and the enormous variation provided by recombination in the formation of gametes. These, added to sexual reproduction in a heterogenous population, make each person a unique model.

Even though we share groups of genes with others of similar ancestry, individual differences still prevail. The external differences recognized in portraits are clearly mirrored by the internal differences that prevent internal parts (organs or tissues) from being interchangeable without significant immunologic manipulation. The biochemist and the pharmacologist of necessity treat people (and organisms) as if they were clones, each reacting more or less in the same way. The complete physician realizes this is never true and, of necessity, must see patients as individuals.

Unfortunately, genetics is often perceived as an esoteric specialty outside the mainstream of clinical practice. In recent years the powerful tools of molecular genetics, now applied in clinical practice, have served to reinforce the notion that genetics is the domain of technology-oriented specialists. An additional factor serving to keep genetics out of the mainstream (and operating almost subliminally) is mistrust: genetics, when applied to humans, smacks of biologic predestination. The legacy of eugenics and the misadventures of racism serve to keep professionals and laypersons at a distance when human genetics is concerned.

Ultimately, genetics will be integrated into clinical practice in the same manner as have been cardiology, dermatology, neurology, and other subsets of medicine. When this is achieved, each primary care physician will be comfortable providing factual and correct genetic information to families.

Pediatric Problems of the Future

Preventive medicine in pediatrics has done more to extend life expectancy than have all the heart catheterizations, transplants, dialyses, cancer chemotherapies, and insulin injections combined. The challenge facing pediatricians is to maintain this level of health through preventive means, and to deal with those causes of morbidity and mortality that now account for a higher proportion of the problems of pediatric patients than was the case a decade or two ago. Common misconceptions make genetics seem less relevant to the busy practitioner. One notion is that genetic diseases are rare. Although it is true that individual genetic conditions may be infrequent, collectively they are common.

The leading cause of death in infancy is birth defects (many of which are genetic in nature) which account for almost 237 deaths per 100,000.

Compare this to only 15 deaths/100,000 for childhood accidents.[1] Furthermore, between 20 to 40 percent of pediatric admissions in the United States are due to problems relating to birth defects or genetic conditions.[2,3] Despite these impressive statistics, the notion persists that genetic problems are rare.

Overcoming Misconceptions

Mendelian (gene) disorders and chromosome problems are seen by every primary care physician. The "multigene predispositions" that may lead to problems such as spina bifida, cleft palate, congenital heart disease, diabetes mellitus, early heart attack, hypertension, etc. are common. Genetic disorders and genetic predispositions abound; some are amenable to specific therapy, some may be preventable, but in each case patient and family education can help individuals to cope and thoughtfully participate in their own care and their own health maintenance.

Another misconception is that genetic conditions must be associated with prior positive family history. A positive family history is probably the exception rather than the rule. Many inherited conditions result from new mutations that occur without warning. This is particularly true of autosomal dominant conditions such as achondroplasia and tuberous sclerosis, but it is also true of sex-linked conditions (for example, Duchenne muscular dystrophy) that happen as new mutations. Variable expressivity also can account for lack of prior positive family history. Individuals may not manifest enough signs or symptoms to trigger recognition or diagnosis of the condition.

Autosomal recessive conditions also frequently occur without prior history. Only when both parents are carriers will some (25 percent) of the children be affected. To have a positive prior family history, these same conditions must have been met previously. Chromosomal disorders also typically happen *de novo*. Chromosomal aneuploidy happens randomly in gamete formation or in embryonic cell division (although with a predeictable frequency in a population). Most such events seem to be "biological lottery" phenomena based on chance.

Still another misconception that inhibits the rigorous pursuit of a genetic diagnosis is the question of "what difference does it make?" This notion fails to take into consideration the possibility of recurrence in an uninformed family or the important emotional and psychological resolution that a diagnosis can provide in helping a family cope with an unusual condition, gain entry into a specific disease support group, or obtain targeted funds for care. People want to understand their illness and their close relatives' illnesses as well as the risks for other family members. This interest is not confined to genetic disorders. It may be well for all diseases to be discussed in the *genetic information and assessment* format that is used in some manner by most geneticists discussing a condition with a family. This format includes a discussion of the *nature of the condition*, the *mode of inheritance or transmission* (if any), the *recurrence risks*, the opportunities for *early diagnosis or prenatal diagnosis*, the *prognosis* in general terms, and treatment *alternatives*.

A problem that can lessen the value of a health professional's discussion of a genetic disorder with a family is the assumption that people with the same genetic disorder will be much alike or at least similar in their expressions of the condition. This initial naivete disappears with experience. Even sickle cell anemia (which is always due to the same mutation in the beta-globin gene) turns out to be quite variable from person to person.[4] The practitioner who generalizes about a condition on the basis of limited experience or a textbook description can provide misleading information. A genetics consultant, because of having seen a wide spectrum of examples of a condition may be helpful with a matter-of-fact rather than an incredulous approach. This can be especially valuable when the condition confronting the family has a distorting cosmetic effect.

Another pitfall in communicating with families is the assumption that the families' interests are the same as the health professional's. Even the geneticist who professes to be "nondirective" has problems when a family seems to disagree with conventional wisdom. A simple but common example is when one is talking to a hearing-impaired couple. The professional may consider an adverse outcome to be the birth of a hearing-impaired child, but the couple may feel that the adverse outcome is the birth of a child with hearing. Society allows for a diversity of views, and this often is apparent when communicating about genetic problems.

There is a misconception among the general public,

often shared by professionals, that modern technology, especially prenatal diagnosis, will eliminate the majority of birth defects. Unfortunately, as described, most birth defects and genetic conditions occur without prior history. Even with prenatal diagnosis for chromosome disorders in "older" mothers, only a fraction of all chromosomally abnormal (aneuploid) fetuses will be detected. For example, if every age-appropriate candidate were to have prenatal diagnosis, the proportion of Down syndrome detected would only be about 33 percent. (This number will vary based on the percent of women in higher-risk categories who choose to have babies. The vast majority of mothers giving birth are in the "low-risk" 20 to 25-year-old range in the US.[1]) In one Baltimore hospital in a recent six-month period, 12 infants were born with Down syndrome. One mother was 34, one 31, and the remainder under 30 (range 20 to 28).[5] All had normal serum alpha fetoprotein levels and normal ("routine") fetal ultrasound examinations.[6] (Serum levels for chorionic gonadotropin or placental lactogen were not done, however.)

In the past, heredity has been overemphasized to the detriment of environmental factors. Now there is a tendency to overemphasize the importance of environment. This has led to the myth of the "cosmic bargain." This unstated bargain is that if a mother is healthy, observes good nutrition, avoids alcohol, cigarettes, recreational drugs, and so on, her baby will be fine. This myth is exacerbated by public awareness programs and education about the hazards of smoking, drinking, etc., and even professionals become coerced into accepting this myth. Proper nutrition, early prenatal vitamins (in moderation), and avoidance of tobacco and alcohol help *maximize outcome* but certainly do not guarantee an infant free from problems or birth defects. Fortunately, most term infants are healthy survivors of the rigorous demands of embryogenesis and fetal development. However, for those less fortunate couples who have a child with a problem, the guilt and responsibility associated with the cosmic bargain myth are considerable.

Diagnosis

A complete genetic assessment is dependent on a good diagnosis. One could argue that any patient coming to a physician is entitled to the best or most complete diagnosis possible. This need for a diagnosis easily can be extended to fetuses and stillborn infants as well as neonates and older persons. A diagnosis lessens ambiguity and uncertainty. Coupled with a discussion of the assessment of the condition, the prognosis, treatment alternatives, and recurrence risks for parents and family members, the diagnosis helps the individual or family come to terms with the condition and proceed with life and coping. Often the family will feel less isolated if they can participate with a specific disease support group.

With regard to neonatal problems, not all birth defects are genetic; however, most families benefit from an evaluation and genetic assessment when any birth defect is present, even if the condition is not genetic. (Parents always worry about recurrence for themselves and for other family members, and fears can quickly be resolved if this issue is addressed.) Such evaluations are well within the scope of pediatrics and certainly should be undertaken soon after birth if a problem is found in a child.

Medical and family history may be helpful in making a diagnosis or in differentiating an acquired problem from an inherited one. If a positive family history is present, it can be very helpful; however, the absence of a positive family history does not rule out a genetic etiology. Pregnancy history also is very relevant. For example, maternal insulin-dependent diabetes mellitus confers an elevated risk (about 6 percent) for major birth defects, including spina bifida and heart abnormalities.[7] Fifth disease (erythema infectiosum, caused by parvovirus B19) can cause fetal death and hydrops.[8] The timing of environmental exposures with embryonic/developmental phases can be helpful in assessing birth defects.

Physical diagnosis is an essential part of a genetic evaluation. As an aid to diagnosis, pediatricians should practice their descriptive skills in enumerating physical findings, especially descriptions of the face and head. Although there are specific terms for most morphologic findings, a crisp, clear description also will serve quite well (for example, "narrow eye slits" for blepharophimosis, "eyebrows that meet over the nose" for synophrys, etc.).

If at all possible, it is helpful to the parents to observe the physical examination. It can be informative for them to see what the clinician is describing. The clinician should avoid language that is inherently offensive during this process. Some of the older language for morphologic findings that falls into the offensive category includes: monster, antimongoloid, gargoyle, simian, hare, dwarf, cat cry, carp mouth, etc.

Some conditions have distinctive, albeit variable, findings, such as in Down syndrome (frequency about 1/800). Other conditions, like Turner syndrome (frequency about 1/3,000 girls) may be identified at birth by unusual edema of the hands and feet. Of course, not all girls with Turner syndrome have this finding. Growth charts and periodic developmental assessments are extremely helpful in detecting problems early. Common but superficial findings such as cafe-au-lait spots should not be ignored either; five or more spots on the trunk suggest neurofibromatosis, which is rare but still occurs at a frequency of about 1/2,500 persons. Clinicians need to include genetic conditions in the repertoire of diagnoses they consider with each infant and child.

Intervention and Treatment

Often the first question about intervention with a child who has a birth defect arises in the delivery room.

In general, this is not the time to debate diagnosis. It should be emphasized that children with severe cosmetic problems can be "normal," and normal-appearing infants may have significant problems.

A discussion of problems present in a child should be held with the family as early as time permits after basic stabilization has been achieved. The discussion need not be delayed for a final diagnosis. It is probably easiest to do this with the parents (rather that the extended family) and with the child present.

Parental hesitancy in assigning a name to a newborn child can signify a delay in bonding and potential rejection. It is beneficial for the physician to learn the infant's name from the family and use it when talking about the child with both parents together.

The outdated practice of sedating a mother who has had a child with a problem seems to have nothing to commend it and should not be encouraged.

Couples with a child with a serious birth defect will be challenged to the depths of their emotional resources, but avoidance and delay in discussion do not help. The physician should be truthful without being insensitive and supportive without being paternalistic. The medical emergency sometimes presented by a newborn child with a birth defect is generally managed quite well by traditional medical intervention, but the challenge of helping parents to understand and cope with their disbelief, distress, and disappointment is the difference between adequacy and excellence in patient care.

Conclusions

While genetic conditions, chromosome disorders, and serious birth defects cannot be cured, they can be treated and the effects lessened. Early identification, thoughtful and skillful intervention, and the use of community and state resources can do much to allow a child to realize his/her potential. The primary care physician, family practitioner, or pediatrician is the ideal person to provide this support and to orchestrate the outcome.

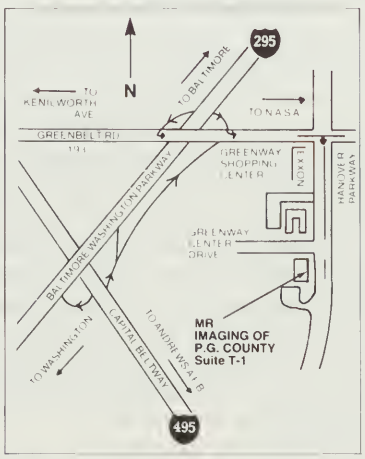
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Assessing the Roles of Genes in Diseases of Adulthood

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The cause of common diseases of adulthood is invariably a complex nexus that includes genetic factors. Genes are likely to be important when common diseases affect younger adults, especially those with a positive family history. A wide variety of disorders caused by mutations in single genes may not become evident until adulthood.

A recent book on the prospects and perils of medical genetics begins with:

> *Genetics does not matter much to the delivery of medical care. Its meager contribution, except in the detection and management of a few rare, serious diseases, is due not to the absence of genetic factors in many diseases but to an inability to identify them.* [1]

Unfortunately, this statement is indicative of the current attitude and practice of most physicians. But genetics *does* matter increasingly in medicine, and the main goal (indeed, responsibility) of medical geneticists must be to alter such misperceptions. With the possible exception of trauma, all human pathology has genetic influences in etiology and pathogenesis, and even in injury, the genome influences rapidity and soundness of healing. The two diametrically opposed positions that "genetic diseases" are rare versus that all disease is genetic need to be reconciled. On the one hand, medical genetics cannot be perceived as relevant only to pediatricians. On the other, physicians who care for adolescents and adults must not only understand the scientific basis for the relevance of genetics but also develop familiarity with the means of discovering and applying genetic information about their patients.

As the articles in this issue emphasize, both the basic science of human genetics and its application to clinical medicine have burgeoned in the past decade.[2] The next ten years will witness major strides in sequencing the entire human genome; mapping the majority of the 50,000 or so human genes,[3] understanding at the DNA level the cause of most of the conditions we now recognize as simply inherited (Mendelian) "genetic diseases,"[4] and considerable progress in gene therapy. Space does not permit even a superficial accounting of how these technical challenges will be accomplished, while satisfying the many and often competing demands of biomedical ethics, economics, law, public interest, and politics.[1,3,5-12] Because no current application of genetic technology is totally without controversy, the following discussion of

applications to adult medicine should be viewed with an eye to potential pitfalls and challenges.

Diagnosing Hereditary Disorders in Adults

A substantial number of disorders caused by a single mutant gene may not be correctly diagnosed or even detected until adulthood. Examples range from mild expressions of sickle cell disease and cystic fibrosis through those with insidious onset, such as the spinal muscular atrophies, to disorders with true late-onset, such as Huntington disease (Table). For timely diagnosis in such cases, there is no substitute for the astute clinician who will not discount vague yet recurrent symptoms; who will know enough to suspect a rare disorder; and who can detect early, subtle cardinal signs, search for pleiotropic manifestations, and perform confirmatory laboratory investigations.

A careful family history, if it uncovers relatives with similar problems, can be invaluable but is time-consuming and often frustrating to obtain in sufficient detail. Frequently adults with Mendelian disorders are diagnosed by specialists, who are evaluating only one of a syndrome of manifestations. Each branch of medicine now seems to have a corner reserved for "genetics." This not altogether laudable reductionistic trend has led to "psychiatric genetics," "neurogenetics," "endocrine genetics," and so forth. The risk is that any disorder not labeled "genetic" will have genetic factors in its pathogenesis ignored.

The consequences of overlooking the diagnosis of Mendelian disorders in adults can be profound to both the patient and the patient's family. Although many hereditary conditions lack curative or even palliative therapy, some conditions can be treated effectively if diagnosed promptly. The dilated ascending aorta in the Marfan syndrome can be replaced surgically before it dissects. Pharmalcologic doses of cofactors or nutritional modulation can ameliorate clinical problems in vitamin- or diet-responsive inborn errors of metabolism, such as homocystinuria. Environmental insults, such as cigarette smoke and high-cholesterol foods, can be avoided in patients with deficiency of alpha$_1$-antitrypsin and low-density lipoprotein receptors, respectively.

The benefits to relatives of timely diagnosis can be even more important. For example, patients with end-stage renal disease are cared for in much the same way regardless of the type of nephropathy. However, it is crucial to diagnose adult polycystic kidney disease, which is an autosomal dominant condition, so that the patient and the family can receive genetic counseling. Relatives with presymptomatic disease can be detected, treated, and counseled. Couples with one partner affected can be counseled about the availability of prenatal diagnosis by fetal ultrasonography or DNA markers. Failure to offer such counseling is well established by case law as malpractice.

The importance and conflicts of counseling for adult-onset conditions has been emphasized by developments in Huntington disease. Most people who carry the Huntington disease mutation have reproduced before symptoms or signs develop. Until recently, even if a person was known to be at 50 percent risk for having inherited the mutant gene from an affected parent, it was usually impossible to diagnose the person as affected before they had their own children. Mapping the Huntington locus to the end of the short arm of human chromosome 4 and developing DNA markers close to the locus (restriction fragment length polymorphisms) now permit in many families

Table. Representative Hereditary Disorders Potentially Not Evident until Adulthood

Disorder	Number Affected or At Risk in US
Adult polycystic kidney disease	500,000
LDL receptor defects	500,000
Familial Alzheimer disease	250,000(?)
Alpha$_1$-antitrypsin deficiency	120,000
Fragile-X syndrome	100,000
Neurofibromatosis	80,000
Sickle cell disease	65,000
Huntington disease	25,000
Marfan syndrome	25,000
Hemophilia	20,000
Myotonic muscular dystrophy	12,500
Becker muscular dystrophy	5,000
Apolipoprotein defects	?

Disorders and Carrier States Especially Prevalent in Some Ethnic Groups

Glucose-6-phosphate dehydrogenase (G6PD) deficiency
Heterozygosity (females) and hemizygosity (males) about 0.10 in American blacks; also common in some Mediterranean populations
Alpha thalassemias
"silent" carrier status (deletion of 1 of 4 alpha alleles) 0.20 to 0.25 in American blacks; also high in Melanesia, Mediterranean areas, Saudia Arabia, and Southeast Asia
"trait" status (deletion of 2 of 4 alpha alleles) 0.03 in American blacks
Beta thalassemias
0.01 in American blacks; 0.10 in some Mediterranean populations
Sickle cell heterozygotes
0.08 in American blacks; about 0.20 to 0.30 in sub-Saharan Africa; also high in some Mediterranean areas, the Middle East, and Southern India
Adult GM2 gangliosidosis (adult form of Tay-Sachs disease) frequency still being assessed, but not as high as the 0.04 frequency among Ashkenazi Jews of heterozygosity for classic Tay-Sachs disease
Cystic fibrosis
about 0.05 in Northern Europeans

Disorders for which Major Gene Effects are Strongly Suggested in Many Cases

Bipolar illness (manic-depressive disease)
Schizophrenia
Alcoholism

presymptomatic and even prenatal determination of carrier status.[3] As was anticipated by the few centers who began this service, presymptomatic diagnosis of a uniformly lethal condition is frought with psychologic, ethical, and social ramifications.[13,14] Not all people who are eligible for testing choose to undergo it. We can anticipate the same diverse reactions from people at risk for other adult-onset Mendelian diseases as more DNA probes are developed. Nonetheless, the obligation for the physician will remain *to offer the service* when a person is known to be at risk.

The demarcation between Mendelian disorders and those due to gross abnormalities of chromsomes is increasingly blurred. In some disorders previously thought to be due to mutation of a single gene, high-resolution microscopic analysis of chromosomes has revealed subtle deletions of specific regions. For even miniscule deletions to be visible, considerable DNA is missing, enough to encode numerous genes. Loss of multiple functions is presumed to account for the complexity of some of the phenotypes, such as the Prader-Willi syndrome. While the small deletion of chromosome 15 in this particular condition is rarely (if ever) passed on in a family from the patient (who is usually infertile), small deletions of other contiguous genes are compatible with transmission if the clinical manifestations permit survival to adulthood. The Wilms tumor-aniridia syndrome, due to a small deletion of chromosome 11, is an example.

Thus, not all disorders due to chromosome anomalies are hereditary in the sense that they can be passed on in families. Klinefelter syndrome (a male with an extra X chromosome) and Turner syndrome (a female lacking one of two X chromosomes) may not be detected until adulthood, not infrequently as part of an infertility evaluation. The fragile-X syndrome is, after the Down syndrome, the most common cause of mental retardation in males and often has little to show in outward phenotype. And even though an alteration of the end of the long arm of the X chromosome usually is evident, some aspects of inheritance suggest that one or a few loci are defective at the fragile site. The condition is inherited as an X-linked trait, although with several important and intriguing nuances. Some men and the majority of women who carry the abnormal locus at the end of the long arm of the X chromosome may not even be detected as intellectually impaired.[15] This is an example of one condition in which it is vitally important to diagnose the cause of mental retardation in all children and adults because of the implications to other relatives, who may unknowingly perpetuate the condition in their offspring. Full workup may involve evaluating institutionalized relatives who have been out of the family mainstream for years.

About two in a thousand adults have a chromosome aberration called a balanced translocation; no important genetic information is evidently lost, but two entire chromosomes may be attached to each other or parts of two chromosomes may be interchanged. Carriers of translocations are at risk for parenting offspring with an unbalanced chromosome constitution. Adult carriers usually are detected only after the birth of a child affected with a complex phenotype, often including retardation and multiple anomalies. When a parent is shown to be a carrier of a balanced translocation, all of his or her immediate relatives should be offered karyotype screening. Occasionally, the best-intended attempts by the parent and the physician to contact, counsel, and screen relatives are frustrated by denial, logistics, or problems with confidentiality.

Emerging Role of Genetic Factors in Common Diseases

It is fair to say that a field of study has acquired permanence when a multiauthored textbook appears. Such is imminent on this topic,[16] an area in which major advances have been made in the past few years. Much of the new knowledge has been acquired through a reductionistic approach: how much of coronary atheroscleosis is due to identifiable single-gene mutations, such as defects of the LDL-receptor [17] and apolipoprotein B-100.[18] This approach, while instructive in pathophysiology, is not likely to uncover all genetic predispositions, most of which are subtle, additive, and interactive.[19] But well-documented single-gene mutations do predispose to some cases of many common disorders such as diabetes, hypertension, peptic ulcer, and Alzheimer disease. Less well established are single-gene predispositions to other common disorders such as bipolar illness and schizophrenia.

Increasingly, the tools of molecular biology can be brought to bear on determining which patients, and which of their relatives, possess one of the recognized single-gene predispositions.[20] The first step, however, is narrowing the scope of the inquiry; that is, short of screening every patient with coronary artery disease with every gene probe relevant to lipid metabolism, how does one optimize the diagnostic process? Once again, the importance of the family history is emphasized. A positive family history for coronary artery disease has long been recognized as one of the half-dozen major risk factors. The younger a patient's relatives were when they developed or showed signs of coronary occlusion, the more powerful the family history as a predictor of risk. Similarly, the younger the patient with one of the adult-onset common diseases, the more likely the importance of genes in cause. This is especially true if environmental and other risk factors are lacking. Thus, the 41-year-old nonhypertensive, nondiabetic woman with her first myocardial infarction, who has not smoked or taken birth control pills, is a prime candidate for all that medical genetics can bring to bear on this complex disorder.

This short view of the growing importance of genetics in adult medicine can only hope to arouse curiosity and concern on the part of health professionals. The science of human genetics is indeed un-

dergoing a revolution, and the curiosity about human variation and pathophysiology that led many of us to medicine, and sustains some of us in investigation, will receive increasing satisfaction in years to come. However, there is a price to be paid for our intelectual contentment: we must apply this new knowledge and technology effectively, promptly, and consistently.

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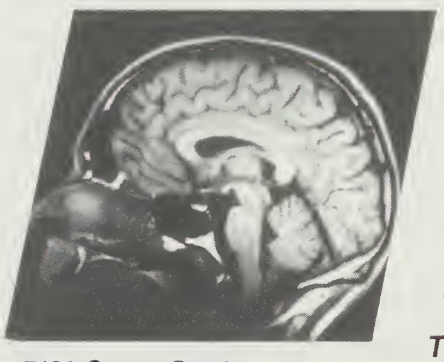
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Genetic Counseling and Patient Education

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Genetic counseling, a process that begins with the identification, usually by the primary care provider, of at-risk individuals or families, is a medical service aimed at educating the family about all aspects of a genetic disorder, outlining options open to the family, and promoting autonomous decision making.

Genetic counselors regard certain principles as sacrosanct. These principles were outlined in 1973 when the Maryland General Assembly established the Maryland Commission on Hereditary Disorders. The law states that genetic services recipients should be offered counseling services that "(i) are nondirective; (ii) emphasize informing the individual; and (iii) do not require restriction of childbearing."[1] Because genetic counseling evolved from roots in the eugenic movement, these guidelines needed to be stated outright.

When the first American genetic counseling center, the Eugenics Record Office, was founded in 1915, genetic counseling activity was aimed at improving the gene pool by limiting reproduction by those deemed unfit.[2] More recently, advances in the science of genetics and increased understanding of human genetics have been accompanied by the development of safe reproductive options for at-risk couples and improved treatment of genetically affected individuals. These developments, among others, have resulted in a gradual change in the nature of genetic counseling. It has evolved into an educational, supportive, and nondirective process widely accepted by health care providers, the federal and state governments, and the public.[3]

In 1974, the American Society of Human Genetics provided a new definition of genetic counseling that addressed both medical and psychosocial aspects of counseling:

> Genetic counseling is a communication process which deals with the human problems associated with the occurrence, or risk of occurrence, of a genetic disorder in a family. This process involves an attempt of one or more appropriately trained persons to help the individual or the family to (1) comprehend the medical facts, including the diagnosis, the probable course of the disorder and the available management; (2) appreciate the way heredity contributes to the disorder and the risk of recurrence in specified relatives; (3) understand the options for dealing with the risk of recurrence; (4) choose the course of action which seems appropriate to them in view of their risk and their family goals and act in accordance with that decision; and (5) make the best possible adjustment to the disorder in an affected family member and/or to the risk of recurrence of that disorder. [4]

This definition spells out important aspects of genetic counsel-

ing. It first points out that genetic counseling often is provided by a team of professionals. It emphasizes the educational aspects of counseling and then highlights the role of genetic counseling in reproductive planning and the goal of independent decision making. Finally, the psychotherapeutic role of genetic counseling is stated. Because diverse individuals, many of whom are not trained in psycho-therapy, provide genetic counseling, this final goal has been the most controversial.[5] Despite the controversy, most counselors recognize that the educational value of genetic counseling is maximized only after the psychological impact of genetic disease on the family is considered. [6]

Who Participates In Genetic Counseling?

Individuals who could benefit from genetic counseling are generally those who express concern or have unanswered questions about genetic conditions and birth defects. They may be seeking additional information about the diagnosis, treatment, or natural history of a genetic disorder affecting them or a family member. They may want help in deciding whether to have prenatal or presymptomatic testing. They ask "what is this," "why did it happen," "will it happen again," "can it happen to me," and "what can I do to keep it from happening." The primary care physician is often in a position to answer these questions, and if he or she has adequate time, current information, and a good understanding of the conditions of concern, the patient's own physician can and often does provide genetic counseling.

Although the primary care provider, by virtue of an ongoing relationship with the patient, is well suited to provide counseling, few have formal training in genetics and many lack time to provide in-depth counseling. Because genetic conditions are generally individually uncommon and rapid advances in their diagnosis and treatment are taking place, many patients may be better served if preliminary and follow-up genetic counseling are provided by the primary care provider and definitive counseling is provided by a medical genetics team.

Most clinical genetics services, including genetic counseling, are provided by a multidisciplinary team. The team generally includes individuals with expertise in the diagnosis and management of genetic conditions as well as in information presentation and family support. Genetic laboratory services are often available on-site, as are other specialty consultants who may be called for assistance in patient diagnosis and disease management. In most clinical genetics centers, the core providers of genetic counseling are clinical geneticists (physicians with subspecialty training in clinical genetics) and genetic counselors (professionals with graduate-degree level training in genetic counseling). Many multidisciplinary teams also include social workers and nurses who provide psychosocial support, crisis intervention, family follow-up, and referral to community resources. The American Board of Medical Genetics provides certification for several categories of genetics professionals, including genetic counselors and clinical geneticists.

The Genetic Counseling Process

What takes place during a genetic counseling encounter will vary with the provider, with the concerns of the family seeking counseling, and with the indication for referral. The first goal of genetic counseling, as reflected in the definition cited earlier, is patient education. To maximize the educational value of genetic counseling, certain information about the patient and the family must be elicited. This information, including family and social history, is easily gathered in the initial stages of the counseling session and, in addition to the intrinsic value of the responses, the exchange serves to establish rapport with the family.

Early in the counseling session it is important to determine the patient's expectations of counseling. The counselor usually has an agenda for the session and knows what he or she wants to accomplish. However, unless the counselor's expectations mesh with those of the counselee, the counseling will not meet the needs of the patient, may not answer his/her questions, and may increase patient anxiety. Since patient education should be based on prior knowledge and misconceptions, it is important at the outset to determine the patient's level of knowledge about the genetic condition as well as any misinformation the client has.

Education about the facts of the genetic condition present or suspected in the family depends on an accurate diagnosis. An explanation of this diagnosis, how it is reached, and its reliability is a part of the counseling. Management of the conditions is generally discussed, as well as where treatment can be obtained and which health professionals should participate in the care of those affected or at risk. With the strong emphasis on education, one aim of genetic counseling is to help the patient and family become experts in their diagnosis and knowledgeable health-care consumers.

The natural history of the condition and the variability of clinical manifestations also are reviewed. These two points, along with the perceived magnitude of the recurrence risk, weigh heavily on reproductive planning. While patients generally ask about natural history, they often do not think to ask about disease variability and may gauge severity only on their own family's experience. Therefore, in counseling the patient, it becomes very important to review the range of variability of the condition, especially when the proband or other affected family members have an unusually mild or severe course.

Discussion of etiology often entails review of the genetic basis of the conditions and leads easily into enumeration of recurrence risk. When defining recurrence risk, fractions and percentages for the conditions occurring and *not* occurring should be given. An assessment of the counselee's perception of the magnitude of the risk is also appropriate.

Finally, reproductive options are introduced. The options open to a particular counselee will vary, depending on the condition for which they are at risk. In general, all possible options should be introduced, even if the counselor believes that they might be negatively received by the patient. For example, when counseling a couple in which the male partner has an autosomal dominant disorder such as neurofibromatosis, artificial insemination by donor (AID) will reduce the risk for the condition to that of the spontaneous mutation rate in the general population. If the counselor does not offer this option because it is perceived that the patient will be offended, the couple who wants to minimize their risks will not be given the opportunity to do so and may not themselves ask about AID. Genetic counseling patients often have read about various forms of prenatal testing such as amniocentesis and ultrasound, and it may be helpful for the counselor to explain why, in some situations, such alternatives might be inappropriate.

After the counseling session or sessions are completed, ongoing support and follow-up care are needed and should be available. Most genetic counselors send a written summary to the patient and to the referring or family physician. Counseling can be reviewed and reinforced by the primary care provider. Ongoing support for the family often is provided through association with a voluntary genetic disease organization, by genetics center staff, and by the primary care provider. Family needs will vary with time, but certain stressful times can be anticipated, and guidance and planning for such times can be offered to families.

Nondirective Counseling and Decision Making

Genetic counselors often report that patients are unable to make reproductive decisions during the counseling session and that more time must elapse, or additional counseling must be offered, before a decision is made. Such experience reflects the truly difficult decisions many couples need to make. In addition, these decisions are being made at a time when new, confusing, and emotionally charged information is presented. Nondirective skilled genetic counseling will help patients arrive at independent decisions, even if a great deal of time must be devoted to the process. A genetic counseling experience generally differs from other medical care encounters in which patients normally want and expect to be told what to do. The issues discussed in genetic counseling such as whether to have children, prenatal diagnosis, or presymptomatic testing for Huntington disease are intensely personal and have far-reaching ramifications. Most courses of action open to couples are associated with risks and benefits that must be individually weighed. Generally one option gradually emerges as most acceptable for each couple depending on their values, goals, and assessment of risks; the decided course of action often is not the one the genetic counselor would choose. When a couple asks the counselor "What do you think I should do?" they often are asking for help in deciding and for approval of their decided course rather than for a decision itself. Letting the patient know the range of options open and some reasons why other couples have chosen each course will legitimize any option they may choose and begin to provide some guidance for making decisions.

Barriers To Effective Genetic Counseling

Once the patient has access to appropriate genetic counseling services, barriers to meeting counseling goals may still exist. Some of these barriers, such as the public's poor understanding of genetic principles and probability, can be dealt with by avoiding technical jargon, by not overloading the patient with new information and by providing easily understood explanations after determining the counselee's level of knowledge.

Other barriers often exist and can be overcome if recognized. Ill-timed genetic counseling can be valueless or worse, harmful. For example, immediately after a genetic condition is diagnosed or just following the birth of a child with a congenital anomaly, a complex explanation about cause of the condition without considering the patient's readiness for the information may serve to alienate the patient from a potentially helpful resource. Genetic counseling at such times should be aimed at first helping the counselees resolve and understand their feelings and letting them know that genetic information is available for them when they are ready for it. The counselor should plan on multiple counseling sessions in such instances.

Cultural barriers to genetic counseling often exist and can be difficult to overcome. Attitudes toward issues commonly discussed in a genetic counseling session, such as childbearing, reproductive technology, loss of fertility, chronic disease, and disability, are greatly influenced by culture, religion, and ethnicity. Discussion of such barriers to counseling is beyond the scope of this article, but recognition of such biases on the part of both counselor and counselee is necessary before there can be hope of overcoming such differences.

Using the wrong words when counseling can be detrimental. Referring to a gene for Marfan syndrome as "defective" often is interpreted by the patient as a comment on their worth. Similarly, when counseling a deaf couple, discussing the "risk for having an affected child" may make no sense to the couple who do not consider themselves "affected" and who may be worried about their chance for having a hearing child.

Evaluating Genetic Counseling

Measuring the success of genetic counseling, either on the program level or on an individual patient basis is difficult because of the multiple aims of counseling and the lack of measurable criteria for success. Generally, the effectiveness of genetic counseling has

been measured in three different ways. Many studies have scored reproductive patterns after counseling with the expectation that a high risk of occurrence of a serious genetic condition would be correlated with no further reproduction. Other studies focused on how well the counselee understood and retained the facts discussed as assessed by a written test or verbal interview after counseling. The third measure has been client satisfaction or measuring how helpful and valuable the counseling was.

The first type of study supposes that at-risk individuals base reproductive decisions on the size of their risk and ignores individual autonomy and other factors important in family planning. The second type of study highlights the goal of patient education but ignores factors influencing acquisition or retention of genetic knowledge. The third type of study addresses how well the counseling meets the patient's needs, but measures for assessing satisfaction are crude at best.

The most comprehensive study of the effectiveness of genetic counseling was a prospective multicenter study examining the discrepancy in expectations and assessment of genetic services by 205 providers and over 1,000 genetic counseling recipients. [7] This study provided much-needed data and raised interesting questions about the nature and aims of genetic counseling. The investigators found that genetic counseling patients brought to the counseling session a huge array of topics they wanted to discuss. One of the major and disturbing conclusions of the study was that although most of the medical concerns of patients were discussed during counseling, most of the social concerns were not. Only 16 percent of the sociomedical concerns (such as school programs, financial costs, and relationship with spouse) that patients wanted to discuss were covered. More time devoted to counseling resulted in a greater number of patient concerns being discussed.

In terms of factual information learned during counseling, 53 percent of patients who were given a risk did not remember it, and 40 percent of patients who were given a diagnosis did not remember its name after counseling. Only 44 percent of the counseling patients reported that the counseling they received influenced their reproductive plans. However, over 78 percent of the study patients were satisfied with the counseling they received.

These data point up the complex and varied needs of genetic counseling families and the tremendous burden placed on the genetic counselor who is supposed to address those needs. The genetic counselor must tailor each counseling session to the needs of the individual counselee. This is problematic when time is short and there is a large body of factual information the counselor believes must be discussed. The answer to meeting client needs seems to be to first determine the goals of the patient and his/her level of knowledge and then allot enough time to meet those goals and to educate the patient. However, even in a straightforward situation involving prenatal diagnosis counseling, an average of three hours of provider time is needed.[8] Whether providers can set aside enough service time and whether patients can pay for that time remains unsettled.

Conclusions

The scope of and indications for genetic counseling will change in years to come. As more reproductive options become available for would-be parents, counseling needs will increase because couples will consider taking advantage of them. Some prenatal screening tests, such as maternal serum AFP testing, are becoming routine, and follow-up counseling will always be a component of this type of screening. A great increase in the need or genetic counseling will emerge as more DNA-based genetic tests become available for presymptomatic and prenatal diagnosis. [9] Although the number of trained professionals providing counseling continues to grow, the number of vacancies in programs is anticipated to increase, [10] making it likely that some of the burden of providing counseling services will fall increasingly on the primary care provider. More professional and public education in genetics will be needed, [11] and ensuring accessibility to genetics services in the future must be addressed.

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Who Is the Patient? A Moral Problem

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As more and more diseases come to be seen as neither personal injuries nor potential epidemics, the problem of who is the patient will become a central ethical concern for physicians.

New genetic discoveries and technologies in medicine have raised a number of profound ethical questions. While many of these questions touch only a few disciplines, for example, the medical researcher, the genetics specialist, the health policy professional,[1] some of these questions have a much broader reach, touching less-specialized areas of medical practice. Developments in genetics will significantly affect our understanding of confidentiality and prenatal diagnosis. Less directly, though no less significantly, these discoveries and technologies also will affect how we see ourselves, what we think it is to be human or to be normal, etc. Some complex problems surround the first of these topics, confidentiality. My discussion will be from the standpoint of ethics rather than law or sociology [2] and from the perspective of the physician rather than that of the patient or of the government.

As we learn more and more about the genetic basis of many diseases, questions such as, "To whom does the physician owe a duty of confidentiality?" are becoming increasingly difficult to answer. Part of this difficulty can be traced to a transformation in our understanding of who is the patient and a corresponding change in our understanding of the physician-patient relationship.

Let me illustrate this transformation with an example.[3]

> A young boy has been diagnosed as having Duchenne muscular dystrophy. Since this is an x-linked, recessive disease, there is good reason to believe that the boy inherited the defective gene from his mother who in turn inherited it from her mother. (Because it is a recessive disease, these women are under no risk of contracting any symptoms or suffering the disease themselves even though they carry the harmful gene.)
>
> The physician learns that the boy's mother has two sisters. Given the available information, each of these sisters has a 50 percent probability of being a carrier of the harmful gene.
>
> The physician wishes to inform these sisters of their condition, since it might affect their reproductive plans, but the boy's mother forbids it. There was a terrible falling-out between the sisters. The boy's mother now sees withholding the information as a way of getting revenge on her sisters. She therefore insists that the boy's right to confidentiality be respected.

Admitterdly, aticulating the ethical question raised by this sort of case as, "Who is the patient?" is not the usual approach. A more common one would be to frame the ethical question in terms of what the limits and duties of confidentiality of the physician are with respect to the patient.[3] Thus, if the medical condition may (or must) be disclosed to others, this is because of limits to the duty of confidentiality that arise from other considerations that outweigh the duties the physician has towards his/her patient.

By presenting the issue in terms of who is the patient, I am trying to underscore a shift in how such cases should and will be seen. If the physician must disclose the information to others, this does not reflect a duty or consideration that competes with the integrity of the physician-patient relationship. Rather, it reflects that very relationship. Disclosures in these cases are not "news leaks." If and when they are justified, they arise from the physician's loyalties and obligations as a *physician* to the patient. The physician's disclosure, if it is to have this kind of justification, must be to the patient. The crucial question, however, is who is the patient.

By analyzing the above example, we can get a better understanding of how this question will become increasingly significant. We will examine three different models of health care that might be invoked to frame the ethical dilemma raised.

Models of Health Care

The most familiar model is what we could call the *private health model.* Its clearest applications are to cases of physical injury or noncommunicable diseases. In such cases, the question of who is the patient has an obvious answer: the patient is the particular individual suffering the disease. According to this model, the physician's mission is to care for his or her patient and to treat the disease. This mission, however, is constrained by a respect for the autonomy of the patient, which generally means that the physician must have the patient's informed consent before performing any major medical intervention. Furthermore, the physician owes a duty of confidentiality to the patient.

In this model there are two arguments for the physician's duty of confidentiality.[4] One argument looks at the consequences of having this duty. By having this duty, we encourage the patient to provide the physician with any information that might help in providing medical care, regardless of how embarrassing or awkward the information might be thought to be. Without this duty, people might withhold information or they might not even seek medical care because they might fear that their interests would be jeopardized. The other argument looks at the rights of the patient, in particular the right to privacy. Insofar as the patient has a right to privacy, the physician has a corresponding obligation to respect that right, which is expressed in a duty of confidentiality.

Of course, the duty of confidentiality on the private health model is not absolute. The most notable exception is when disclosure would prevent the occurrence of serious harm. That exception, however, does not arise in this case. Disclosing the genetic information would at most succeed in preventing the birth of possible harmed individuals, but that is quite different from preventing any actual harm. (If this isn't clear, imagine the case where the aunts are informed, but they decide nevertheless to have children. Given that the children, including any who are born with Duchenne muscular dystrophy, might not otherwise have been born, can we say that any of them have been harmed?) Thus, we should conclude that, however much the physician dislikes it, he/she is ethically obligated to keep the information confidential. Since the two sisters are not the physician's patients and there is no question of avoiding serious harm, he has no special duty toward them.

One might think the problem could be avoided if it were anticipated. The physician simply announces in advance that his/her duties of confidentiality have several exceptions. Among those exceptions are cases where the physician believes that disclosing medical information to relatives could result in a direct benefit to them. Thus the patient is told that access to health care services is contingent on consenting to these exceptions.

There are a number of problems with this approach. First, what is the moral justification for this modification? Can this modification be reconciled with the arguments for confidentiality identified in the private health model? Or does this modification represent a new exception to that duty, in which case it would need to be justified? Second, suppose the patient does agree with this restriction. Is the physician obligated to inform relatives in cases such as the one above? If he/she is obligated, is it because he/she is a *physician* or would anyone who learned the relevant information have an obligation to inform the relatives? Finally, what happens if the patient refuses to consent to these restrictions? If the physician refers the patient to some other physician who doesn't place such restrictions, the potential problem is simply passed to someone else. From the standpoint of the medical community, the potential problem remains. If the physician does not refer the patient to anyone else, does this mean that the patient is to be abandoned? This hardly seems to be a satisfactory result since the point of placing these restrictions was to ensure that the physician is not forced to ignore the health concerns of the patient's relatives.

A different approach to the problem of disclosure is the *public health model.* Its clearest application is to cases of highly contagious diseases. In such cases, the patient is the public, and the physician's mission is to promote the public's health. Concepts such as autonomy or informed consent are to be understood in terms of the political will and decision-making process of the public. There is, however, no duty of confidentiality in this model since it plainly does not make sense to talk about such things with respect to the public.

Because the public's will doesn't always reflect a consensus, the mission of the public health model may, at times, be in conflict with a respect for the autonomy and choices of some individuals. As the case of quarantine or mandatory vaccinations illustrates, public health measures may require restricting some people's liberty or ignoring some people's choices. While these conflicts point to regrettable costs in this model, they do not signify any constraints. The justification for this attitude lies in the sheer magnitude of the serious harm that would be avoided. The public's health cannot be sacrificed for the sake of the rights of some individuals. Because of this decisive normative feature in the public health model, identifying anything as a public health problem is a significant matter. Some of the darker moments in our history arose from incorrectly characterizing some problems as public health problems.[5] In many cases, state sterilization laws enacted in the early part of this century were based on the view that "feeblemindedness" was a public health problem. Unchecked, it would undermine the quality of the race. In a famous Supreme Court decision, Justice Oliver Wendell Holmes said, "This principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. ... Three generations of imbeciles are enough." [6]

How we use the public health model to read the above case depends on what we identify as the public health problem. Suppose that Duchenne muscular dystrophy is taken to be a public health problem. Then, according to this model, the physician has no duty of confidentiality in this matter; instead he has a duty to inform not only the sisters of their possible medical condition but also anyone else who is responsible for controlling the spread of this disease.

While both the private health and public health models have some legitimacy, neither perfectly fits the facts of this example. The private health model is not entirely appropriate because we are dealing with a *transmissible disease*. We should not see the disease as confined to isolated individuals, for how we treat the disease in one individual will affect the likelihood of its appearing in another individual. But neither is the public health model entirely appropriate because we are dealing with a *noncontagious* disease. The general public is not at any special risk because some individuals have this disease. Indeed, as we noted, no actual people are at risk; only the possible offspring of these women may be at risk. If we regard untreatable genetic diseases, such as Duchenne muscular dystrophy, as public health problems, then we are in effect regarding the birth of certain kinds of individuals as public health problems, a view that is as ominous as it sounds.

Finally, let us consider what we could call the *family health model*. As the name suggests, the physician's patient is the entire family, where "family" is understood to refer to a genetic network rather than a social institution. The physician's duties are to the family as a whole. While his respect for the family's privacy obligates him to refrain from disclosing any information to unrelated third parties, this obligation does not extend to the family itself. The family's privacy is plainly not violated by disclosing information to other family members.

The family health model seems to acknowledge that genetic diseases are often family diseases, and so it seems to be tailored to fit some of the ethical problems arising from genetic diseases. It also seems to fit the current practice of some physicians since members of a family typically see the same physician. Nevertheless, there are two problems with this model. First, if the family is the patient, the physician would seem to be ethically obligated to ensure that all the adult members are informed of the medical situation. Many families are scattered, with some members completely out of touch with others. Without a radical change in the profession, the physician does not have the resources to track down distant family members.[7] Second, many families are divided. Who, then, speaks for the family? Who decides whether some piece of information should be kept confidential? Rather than clarifying the ethical issues, the family health model may simply shift them.

I don't wish to suggest that the options I have surveyed are the only options or that the problems I have raised with them are irresolvable. We have only begun to reflect on these matters. While the kind of case we have been examining may now be infrequent, that will soon change. As we learn more and more about the genetic basis for various diseases, this kind of case will become increasingly familiar. A diagnosis not only will identify a disease, but it may thereby indicate the medical condition of other individuals. Thus physicians from a wide range of specialties increasingly will find themselves confronting situations where it is not clear who the patient is and, consequently, what their responsibilities and obligations are.

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2. For an interesting survey of the ethical views of genetic counselors, see Wertz D, Fletcher J. Ethics and Medical Genetics in the United States: A National Survey. Am J Med Genet 1988;29:815-27. Ethics and genetics: An international survey. Hastings Cent Rep (suppl) 1989;19(4):20-24. It should be stressed that these articles do not assess the justifications for the ethical views surveyed. They merely note points of consensus and controversy. To that extent they are more contributions to sociology than to ethics.

3. Although this is based on a true case recently told to me, it represents a typical case in the medical ethics literature. See, for example, Beauchamp TL, Childress JF. Principles of Biomedical Ethics. New York: Oxford University Press, 1983.

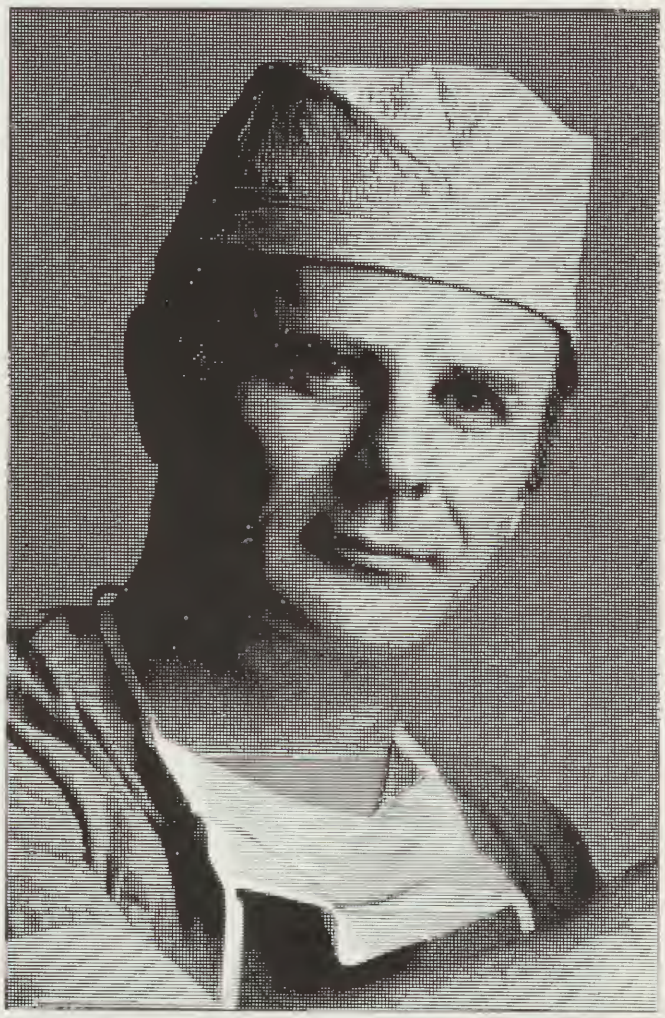
4. Walters L. Ethical aspects of medical confidentiality. In Beauchamp TL, Walters L, eds. Contemporary Issues in Bioethics. Belmont, CA: Wadsworth Publishing Co., 1982.

5. See Kevles D. In the Name of Eugenics. New York: Knopf, 1985.

6. Buck v. Bell, 274 US 200.

7. Compare Andrews LB. Medical Genetics: A Legal Frontier. Chicago: American Bar Association, 1987:198. ■

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Why Was My Insulin Changed?

Doctor, I do not know whether I am taking the insulin that is best for me. My regular physician was on vacation and the physician's assistant in the office decided that I should be placed on insulin because my blood glucose was out of control. The PA gave me a note to get NPH-U100 insulin from the pharmacy and to take it to the Diabetes Educator at the hospital for instruction on its administration. The pharmacy dispensed NPH-U100 (Beef-Pork). The Diabetes Educator thought that all patients receiving insulin for the first time should receive either synthetic or semisynthetic insulin (Novolin N-U100,® Insulatard Human U100,® or Humulin U100®). When the physician's office was called for clarification, the PA referred the call to another physician taking calls that day (a gastroenterologist) who never had heard of synthetic and semisynthetic insulin. When the situation was explained he approved the use of the newer insulin. But I am confused. Why was my insulin changed?

For several years, it has been the policy of all diabetic clinics and physicians specializing in diabetic care to do the following:

1. If a patient has been doing well on any insulin, do not transfer to another insulin.
2. If a patient is taking insulin for the first time, synthetic or semisynthetic insulin should be used. These insulins are less likely to cause allergic reactions or to result in antibody blockage of the insulin effect over time.

The Diabetic Educator was correct in calling for clarification of the insulin order and placing you on the synthetic human insulin (Humulin N-U-100®) you are now taking. The PA's note to the pharmacy was incomplete in that it did not specify the insulin source. The pharmacy had the option of giving you any of the following:

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NPH-U100® Beef-Pork
Humulin N-U100®
Insulatard Human U100®
Novolin N-U100®

A word of caution to physicians: when one is exchanging calls with another physician, if at all possible reciprocate with one in the same area of practice or at least with the ability to care for the other's patients. The gastroenterologist readily recognized his limitations and accepted the recommendation of the Diabetes Educator. One further word of caution, a PA should not attempt to care for patients when his/her physician employer is away.

The patient is to be assured that she is taking one of the proper insulins for her diabetes.

DeWITT E. DeLAWTER MD
Editor ■

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Immunotherapy of Disseminated Renal Cell Carinoma

Currently, surgical excision of the kidney harboring cancer is the only effective therapeutic modality of localized renal cell carcinoma. There is no effective systemic therapy for disseminated renal cell carcinoma. Since almost all patients with this disease die of metastases, the need for effective systemic biologic response modifiers (BRM) is hoped to be a new road to an effective systemic therapy. Among the BRM, Interleukin-2 (IL-2) has attracted the attention of many investigators in this field.

Natural Interleukin-2 is a lymphokine that is produced and secreted by T-lymphocytes. This glycoprotein molecule is intimately involved in the induction of a number of immune responses in which T-cells play a role.

Recombinant DNA technology has facilitated the large-scale production of these peptide and protein molecules in both microorganisms and eukaryotic cell expression systems. Thus, the availability of large quantities of recombinant human Interleukin-2 will allow the clinician to begin to explore its biologic activities and potential therapeutic use in patients with certain cancers. A preliminary report from the National Cancer Institute indicated some encouraging results in patients with renal cell carcinoma. We designed a Phase II open-labeled study. This study was designed to evaluate the toxicity and efficacy of a new rIL-2 in disseminated renal cell carcinoma. Following surgical resection of the primary tumor, 1 x 106 units/day rIL-2 was administered by 2-hour intravenous infusions daily for 4 consecutive days. At the conclusion of four cycles of therapy, the patients were re-evaluated for response. Those patients with complete and partial responses will continue on low dose 1.5 x 106 units/m2/day as outpatients. The toxicities were chills and fever (in all patients), transient hypotension in three patients, malaise and fatigue in most of the patients.

A total of 17 patients have entered this phase II open-labeled study. The follow-up ranges are from 6 to 24 months with a mean of 11 months. Four of the 17 had responses (24 percent). This includes one durable response (6 percent) and 3 partial responses (18 percent). The complete response has been durable in the lungs (20 months). The partial responses have been in the retroperitoneal site and have been of short duration. The toxicities of this high-dose rIL-2 have been hypotension, pyrexia, malaise, and skin rashes. We believe that the optimal conditions for the maximal efficacy and minimal toxicities include removal of the primary tumor, minimal tumor burden, lung metastases, 2-hour infusion delivery and intensive fluid therapy. There is only one complete durable response. The partial responses were not durable.

We concluded that the responses have been few and of short duration. Therefore, we need to combine this therapy with other modalities. Obviously there is no effective systemic therapy available; thus the search for such therapy should continue at an accelerated rate.

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Javadpour N, Lalehzarian M, Campbell EW, Jr. High dose Interleukin-2 in disseminated renal cell carcinoma. Proceed Mid-Atlantic AUA, September 1987.

Rosenberg SA, Lotze MT, Muul LM, et al. Observation on the systemic administration of autologous lymphokine activated killer cells and recombinant Interleukin-2 to patients with metastatic cancer. N Engl J Med 1985;313:1485.

NASSAR JAVAPOUR MD
Professor and Head
Department of Urologic Oncology
Department of Surgery
University of Maryland

Tumor conferences are held weekly on Tuesday between 8 and 9 a.m. in Room N13E02 at the University of Maryland Medical System. Physicians are welcome to attend this open meeting and to present cases and pathological slides. Call the number below by noon Monday to be placed on the schedule.

Surgical Oncology Program at the University of Maryland Medical System, Room N13E02, Baltimore, MD (301-328-5224). ■

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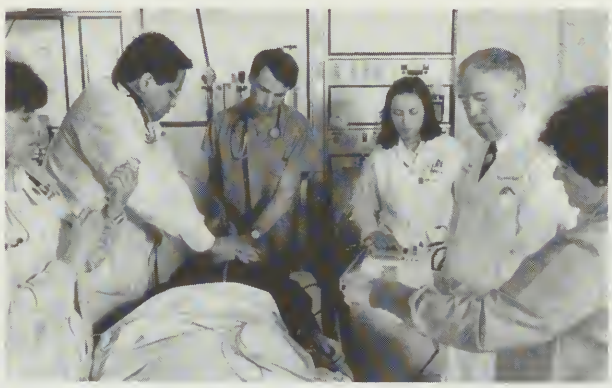
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Recent Additions to the Reference Collection of the History of Medicine Collection:

Butterfield, Bruce A., et. al. Editor, *Bicentennial of William Beaumont, MD. 1785 - 1853*. Fourth Champlain Valley Symposium Proceedings. New York: Clinton County Historical Society, 1985.

Estes, J. Worth, David M. Goodman. *The Changing Humors of Portsmouth: The Medical Biography of an American Town, 1623 - 1938*. Boston: The Francis A. Countway Library of Medicine, 1986.

Goldon, Richard L., Charles G. Roland, Editors, *Sir William Osler: An Annotated Bibliography with Illustrations*. San Francisco: Norman Publishing Co., 1987.

Goldowsky, Seebert J., *Yankee Surgeon: The Life and Times of Usher Parsons, 1788 - 1868*. Boston: The Francis A. Countway Library of Medicine, 1988.

Haygood, Tamara Miner, *Henry William Ravenel, 1814 - 1887*. Tuscaloosa: The University of Alabama Press, 1987.

Jacobson, Timothy C., *Making Medical Doctors: Science and Medicine at Vanderbilt Since Flexner*. Tuscaloosa: The University of Alabama Press, 1987.

Meynell, G. G., *The Two Sydenham Societies: A History and Bibliography*. Kent, England: Winterdown Books, 1985.

Patterson, James T., *The Dread Disease: Cancer and Modern American Culture*. Cambridge: Harvard University Press, 1987.

Pattison, F.L.M., *Granville Sharp Pattison: Anatomist and Antagonist, 1791 - 1851*. Tuscaloosa: The University of Alabama Press, 1987.

Pernick, Martin S., *A Calculus of Suffering: Pain, Professionalism, and Anesthesia in Nineteenth - Century America*. New York: Columbia University Press, 1985.

Rothstein, William G. *American Medical Schools and the Practice of Medicine*. Oxford, New York: Oxford University Press, 1987.

Wedeen, Richard P., *Poison in the Pot: The Legacy of Lead*. Carbondale: Southern Illinois University Press, 1984. ■

Since January of this year the Library's Technical Services Department has been using the "Card Datalog" computer software to catalog new acquisitions. Ultimately, records for the entire book collection will be entered into the computer, and the card catalog will be removed. However, the conversion of approximately 30,000 books will take some time. During this initial period, please remember that the card catalog may not reflect all our holdings. If you have any questions or difficulty in finding an item please ask one of the librarians for assistance.

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The History of Medicine Collection
is attempting to build our
medical artifact collection.
Currently we are seeking
hand-held surgical instruments, pre-1920
that were used by member Maryland physicians.

Among materials being sorted in the History of Medicine Collection was the following letter from Major Rastus Ransom Norris of Crisfield.

Many Maryland doctors served overseas during the First World War, and many of their experiences are similar to that described here by Major Norris. Unfortunately the History of Medicine Collection contains very few personal narratives of Med Chi members who served overseas during World War I.

If you (or someone you know) has a collection or group of letters from Med Chi members stationed in AEF Hospitals, the Ambulance Corps, or any other health service during WWI and would be interested in donating or providing copies, please contact the History of Medicine Collection.



Admitting Room - Eighth Evacuation Hospital, Camp Meade. Arthur Shipley Papers.

Motor Field Hospital #36
Sanitary Train, 7th Div.
American Expeditionary Force
Dec. 29, 1918

Dr. Gordon T. Atkinson
Crisfield, Maryland

My Dear Doctor:

I have received your letter of November 12th and I appreciate your kind expression in regard to the part which I have taken in this conflict. You ask for an account of my part. . . I will take up the part that Field Hospital No. 36 took after it started for the front.

Field Hospital No. 36 took its position in the Zone of Advance on October 10th, 1918. . . . Our Divisional triage through which all cases were sent from the front was situated at Martincourt. At the triage all cases were sorted, the slightly wounded and non-transportable being evacuated to Field Hospital No. 36.

The personnel of our hospital in action consisted of 5 Medical Officers and 77 enlisted men of the Medical Department, one Dentist and assistant. Cases were brought from the ambulance to the Office and Admitting Room where there was always a Medical Officer, a Noncommissioned Officer and Clerk on duty. Here the data was taken and a clinical card begun making note besides the usual information required of the time of the injury, type of missile and time of arrival at [the] Hospital. The cases were divided into three types; the acutely shocked, moderately shocked, and slightly wounded. . . . you may be interested in the treatment of shock in the advanced front. It consists of the application of warmth externally by means of hot water bottles and hot blankets, hot drinks, and free exhibition[sic] of morphine and the introduction of Gum Salt solution into the vein which takes the place of the lost blood.

There were two operating teams, one of which I had charge of. A day or two before the Armistice we were compelled from the rush of work to work from three o'clock in the afternoon until about six the next day working continuously through the night operating. Word was sent to Headquarters for relief and two Medical Officers were sent which then kept three teams at work.

Nearly every other day large high explosive shells came over our Hospital and bursting in the road beyond. We were well protected being on the side of a hill and the Huns some distance behind us about 4 1/2 miles, and their gun fire came over our heads. The only part that made one nervous was the continuous buzz of the Hun planes over us not knowing when he would drop a bomb. I have the most profound respect for our doughboys, the life has been the hardest and the work the toughest. They were always smiling when brought into our hospital, shot to pieces with horrible wounds. They were always smiling and never complaining.

Now that the hostilities have ceased we as usual await orders. At first we were going forward to Germany; at present we do not know where we will go but expect to go forward; though we are all hoping and wishing now to head home. We feel we have done our part, small though it may be, but however as peace is about dawned we are ready to return to our old ways of living.

I have been shocked by receiving news from home of the great number of deaths from the "flu" in Crisfield and the states. [A particularly virulent strain of flu had swept the country by 1917 Dr. Atkinson, probably commented on the progress of the virus in an earlier letter.] *I know it will be sad to return and find so many familiar faces and friends gone, but I shall be glad to get back among you all and tell you more in full of this World War. I only hope and pray that there will never be another.*

Kindly remember me to all my friends and many thanks for the smoking tobacco you sent me for Christmas which has been a great treat. Wishing you and yours a Happy New Year, I remain

Very Sincerely,
R. Norris



Base Pharmacy - Eighth Evacuation Hospital,
Camp Meade. Arthur Shipley Papers.

RASTUS RANSOM NORRIS
1881 - 1941

Rastus Ransom Norris came from a long line of distinguished military men. On his mother's side he could trace his family back to Joseph Evens, an American Revolution era soldier who fought with both Captain Joseph Crockett's 7th Virginia Regiment and Colonel Daniel Morgan's Rifle Regiment.

Norris' grandfather was Major Israel Robinson, a Major in the Confederates States Army who was killed in 1863.

Rastus Ransom Norris, the son of James L. Norris, an attorney and former treasurer of the Democratic National Committee, received his medical education at the University of Maryland Medical School, graduating in 1905. From there he went on to the Johns Hopkins Hospital for postgraduate courses.

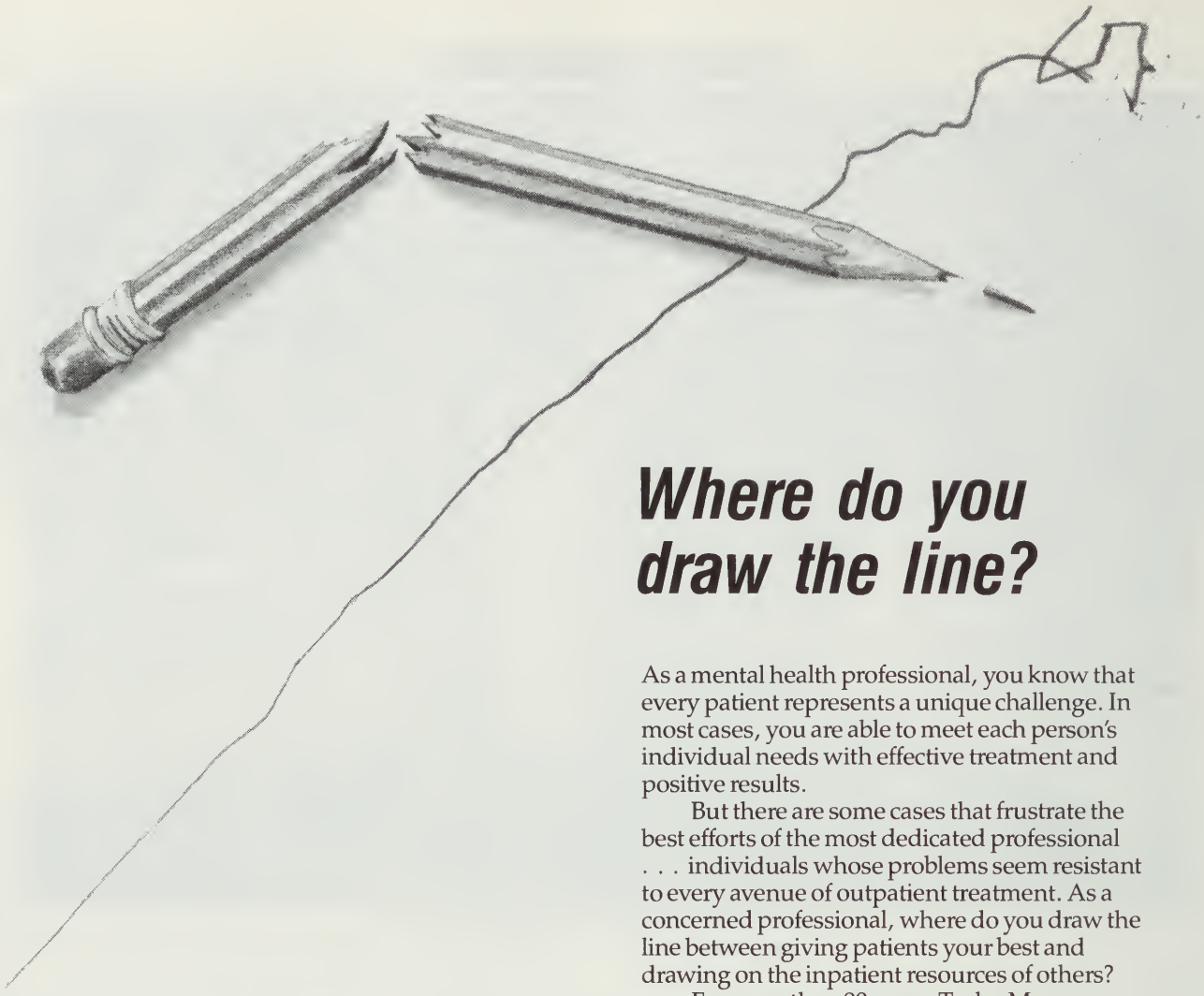
His work at Hopkins helped him gain an appointment in 1906 through 1907 to the staff at the old Bayview Hospital. The always-active Norris also undertook two new projects in 1907: Assistant Surgeon for the United Railway Company and until 1909, Assistant Police Surgeon for the City of Baltimore.

At the outbreak of American involvement in the war in Europe Norris received an appointment as Captain in the US Army Reserves Medical Corps. Sent to Europe with the 7th Sanitary Train, 7th Division, he eventually was placed in command of Field Hospital 36, where he remained throughout the war.

Commissioned a Major upon his retirement from active service in 1919 Norris stayed active in the medical profession until his death in 1941. He served as Examiner for the Veteran Bureau, as a member of the surgical staff of both the Edward W. McCready Memorial Hospital and the Somerset County Welfare Board, and was an active member of both the Somerset County Medical Association and the Eastern Shore Medical Society.

BILL SLEEMAN
Med Chi Archivist ■

A special note of thanks is due Dr. Conrad Acton. Doctor Acton, an active member of the Library and History Committee, has over the past several months donated several rare and fine medical texts to the History of Medicine Collection. With the rising costs of rare books on the open market, these donations are greatly appreciated.

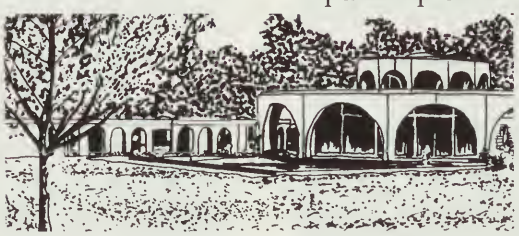


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Highlights: Executive Committee and Council Actions

Executive Committee - June 15, 1989

1990 Annual Meeting - It was reported that the Committee on Scientific Activity has recommended that the Faculty's 1990 Annual Meeting be held at the Turf Valley Hotel and Country Club. However, there has been a substantial increase in the cost for the use of the meeting rooms at Turf Valley - $5,000 per day (last year's charge was $500 per day). The Executive Committee also was informed that with the approval of Dr. Jack Zimmerman, Chairman of the Committee on Scientific Activity, members of the staff looked at the the Hilton Hotel in Reisterstown as a possible site. Though the charge for the meeting rooms at the Hilton is considerably less than at Turf Valley ($1,000 per day), it is a much smaller facility and would not accommodate enough exhibits to make it profitable. Further, Dr. Bob pointed out that parking was inadequate for such a meeting at the Hilton.

Following discussion, the Executive Committee adopted a motion to recommend to Council that Med-Chi accept the terms of the Turf Valley Hotel and Country Club and schedule the 1990 Annual Meeting at that facility.

Standards of Care - MHA - The Executive Committee was advised that Dr. Atkins had appointed Dr. Victor Hrehorovich, Chairman of Med Chi's Hospital Medical Staffs Committee as Med Chi's representative to the Maryland Hospital Association's Council for Quality Health Care. As Med Chi's representative, Dr. Hrehorovich also will serve on the advisory committees addressing the C-section study, the ER physician credentialing issues, and activities involving laminectomies.

Medical Assistance Program - The Executive Committee accepted as information an update by Gerry Evans on the Brand Name Prescription Drugs and Alan Rifkin's report on the Medical Assistance Diversion Plan.

High Blood Pressure Commission - The Executive Committee was advised that recent notice from the Division of Appointments of the DHMH indicated that contrary to their earlier correspondence to Med Chi, Dr. Hilary O'Herlihy had served two terms on the Commission on High Blood Pressure and Cardiovascular Risk and, therefore, was ineligible to serve another term. The Executive Committee recommended that the component medical societies be contacted for additional nominees for this position and, once received in the Faculty office, the names be forwarded to the Council for consideration.

Medicolegal Committee - Dr. George Greenstein, Chairman of the Medicolegal Committee, presented proposed guidelines developed by the Medicolegal Committee concerning "Expert Physician Testimony and Reports," for review by the Executive Committee. The guidelines have been approved by the Baltimore City Bar Association; however, amendments to the guidelines are awaiting the approval of the Maryland Bar Association. The Executive Committee voted to refer the guidelines to the Council with a recommendation for approval, pending approval of the Maryland Bar Association.

Peer Review Management Committee - The Executive Committee accepted the Peer Review Management Committee's recommendation to address Med Chi's position in the evaluation of numerous and substantive modifications to the *Peer Review Handbook* as proposed by the Physician Quality Assurance Board.

Governor's Drug Summit - Med Chi participated in Maryland's first statewide drug summit that was held to discuss the development of new strategies to fight Maryland's drug problem. The Executive Committee considered the following resolution submitted by the Committee on Drugs and Committee on Mental Health:

> Resolved, That having been adequately trained in the treatment of drug problems, primary care physicians be encouraged to participate in the medical therapy of patients with drug problems with the widest latitude in therapeutic procedure and modality; and
>
> Resolved, That the Committee on Drugs and the Committee on Mental Health jointly assume the responsibility for coordinating these measures and report back to Council in six months on the results of its interventions.

Following discussion the Executive Committee adopted a motion to support the concept as presented in the resolution and to refer it to Council for consideration.

An analysis of drug consumption by state (ref. US Department of Justice Report, Drug Enforcement Administration, *Multiple Copy Prescription Programs Resource Guide*, July 1987) was provided for review by the Executive Committee. For clarification purposes, it was pointed out that Maryland ranked 36th during calendar years 1979-1985 in drug consumption per capita and was not the "worst state" as recently stated by an official of the Department of Health and Mental Hygiene. It was suggested that a letter from Med Chi be sent to the Department to clarify the issue.

Malpractice Suits by Medical Beneficiaries - National Data - The Executive Committee discussed a recent letter from Nelson Sabatini, Deputy Secretary for Health Care Policy, Finance and Regulation, DHMH, presenting national data suggesting that Medicaid or uninsured patients do not sue more often than other groups. Mr. Sabatini stated in his letter that only 13 percent of Maryland obstetric claims are filed by Medicaid recipients. Further, his office is conducting a study of Maryland Health Claims Arbitration Office filings to determine suit rate by the patient's payer category; findings should be available in the Fall.

Specialty Societies Committee - Following a review of the specialties represented on the former Ad Hoc Interspecialty Committee, the Executive Committee adopted a motion to forward the list of specialties to the Council with a recommendation for approval. In accordance with the bylaws of the newly formed Committee on Specialty Societies, the Council must approve the specialties before representatives may be appointed to the committee.

AIDS - The AMA Delegation requested clarification of Med Chi's policy on AIDS in order to address several AIDS resolutions to be considered during the AMA annual meeting in Chicago, June 18-22, 1989. Following review of the Omnibus AIDs bill passed in the 1989 Maryland General Assembly, the Executive Committee took the following positions on the resolutions:

Resolution #16 - Confidential Reporting of HIV Disease to the Health Departments
Recommended Action: *Support*

Resolution #18 - Declaration of AIDS as a Communicable / Sexually Transmissible Disease
Recommended Action: *Nonsupport*

Resolution #38 - AIDS Testing
Recommended Action: *Nonsupport*

Resolution #124 - Acquired Immune Deficiency Syndrome (AIDS) Reporting and Notification
Recommended Action: *Support*

■ ■ ■

Council - June 29, 1989

Committee Reports

Executive Committee

Membership Initiatives - Council, upon recommendation of the Executive Committee, adopted a motion to approve a proposal to provide component medical societies one-half of Med Chi's first year's dues for recruitment of each new member. This will assist in covering local medical society expenses, as well as provide an initiative for component society recruitment programs. This initiative is in addition to the present Council pilot program of allowing a $35 credit toward the dues of physician members who recruit a new member.

Specialty Societies - Council discussed at length the recommendation of the Executive Committee to approve a proposed list of specialties (as represented on the former Ad Hoc Interspecialty Committee) for consideration of representation on the Faculty's Committee on Specialty Societies. Dr. Joseph Snyder expressed concern that there was a need for established criteria specifying the membership qualifications of the specialties, such as the percentage of Med Chi members required in a specialty society, prior to action by Council. Following discussion, a motion was adopted to forward the issue to the Committee on Specialty Societies to transact as its first item of business and to report back to the Council. Also, it was agreed the composition of the Committee on Specialty Societies be the same as represented on the 1988 Ad Hoc Committee on Specialty Societies (which was formed to address the RBRVS project) and, further, those societies be allowed to remain represented in the newly designated committee for a period of at least two years so as to meet such membership criteria as approved by the Council.

Access to Health Care for Women and Their Families Conference - Council adopted a motion to provide a meeting place for a conference, "Access to Health Care for Women and Their Families," as requested by Marilyn Goldwater, Director, Office of Federal Relations of the Department of Health and Mental Hygiene. The conference is scheduled for November 1989. No monetary support will be provided by the Faculty due to present budget restrictions.

Committee on Scientific Activity - Dr. Jose Yosuico, Treasurer, on behalf of the Committee on Scientific Activity, reported that the committee had selected the Turf Valley Hotel and Country Club as the 1990 Annual Meeting site even though there had been an increase in the cost of the meeting space from $500/day to $5,000 per day. The meeting is scheduled for May 9 through 11, 1990. The Council approved both the meeting site and the dates as recommended by the committee.

Finance Committee - Dr. Yosuico, Treasurer, presented the financial statement for May 1989, which was accepted as information by the Council.

Medicolegal Committee - Dr. George Greenstein, Chairman of the Medicolegal Committee, presented the proposed "Guidelines concerning Expert Physician Testimony and Reports," which was accepted by the Council, pending the approval of the Bar Association.

Public Relations Committee - Dr. Hiroshi Nakazawa, on behalf of the Public Relations Committee, spoke to the continuation of the Media Awards Program with a request for approval of $3,215, $3,000 for cash awards and $215 for certificates and expenses in recognition of the outstanding efforts of medical journalists. Dr. Nagel, Council Chairman, pointed out that the Executive Committee had reviewed the matter and concurred with the recommendation of the Finance Committee that only $215 be expended for awards in the form of certificates due to the lack of interest on the part of the media in covering Faculty affairs during the past year. The Council agreed with the recommendation and approved an expenditure of $215 for the purchase of certificates as recognition awards for the media, in lieu of cash awards.

Drug Committee - Dr. Nelson Goodman, Chairman of the Drug Committee, and Dr.Kenneth Manilow, Chairman of the Mental Health Committee, spoke in

support of the following resolution, which, after an amendment to include the Uniformed Services University of the Health Sciences in the first resolving clause, was adopted as amended:

> Whereas, There is a catastrophic drug problem in the State of Maryland as well as nationally;
>
> Whereas, Governor Schaefer convened a statewide drug summit in which Med Chi participated;
>
> Whereas, Physicians have the basic pharmacologic and medical knowledge to prescribe many controlled substances; and
>
> Whereas, The physician already has a therapeutic relationship with the patient; therefore, be it
>
> Resolved, That Med-Chi work with the University of Maryland School of Medicine, The Johns Hopkins University School of Medicine, and the Uniformed Services University of the Health Sciences to develop programs of education in drug addiction management to be required for all medical students and to be offered to all physicians, which should include the use of advanced communication techniques including video tapes, and that CME credits should be offered;
>
> Resolved, That having been adequately trained in the treatment of drug problems, primary care physicians be encouraged to participate in the medical therapy of patients with such problems with the widest latitude in therapeutic procedure and modality; and be it further
>
> Resolved, That the Committee on Drugs and the Committee on Mental Health will jointly assume the responsibility for coordinating these measures and report back to the Council in six months on the results of its interventions.

Drs. Goodman and Manilow were congratulated for their work in developing this resolution and their involvement in this project.

AMA Delegation

AMA Report PP (Abuse of Prescription Drugs) - Dr. Antlitz, Chairman of the Faculty's delegation to the AMA, presented recommendations contained in the AMA Board of Trustees Report PP (Abuse of Prescription Drugs). Following discussion, the Council agreed to support the following recommendations of the AMA:

1. Oppose expansion of multiple-copy prescription programs to additional states or classes of drugs because of their documented ineffectiveness in reducing prescription drug abuse and their adverse effect on the availability of prescription medications for therapeutic use.
2. Continue to address the problems of prescription drug diversion and abuse through its highly successful programs, including PADS and PADS II, physician education and research activities,and continue to assist state societies in developing proactive programs.
3. Encourage further research into development of reliable outcome indicators for assessing the effectiveness of measures proposed to reduce prescription drug abuse.

AMA Reports BBB and EEE - Expenditure Targets (ETs)- During discussion, Dr. Lawrence Fink commented that physicians had hurt themselves more than any other group through the AMA and had allowed the federal government to implement ETs. Dr. Donald Lewers responded to Dr. Fink's comments, defending the AMA stating that the AMA was, indeed, actively involved in an attempt to have the ETs deleted from the Budget Omnibus Bill. He also stated that the AMA had published an ad in the *Washington Post* to inform the public and Congress about the inevitable rationing of care that would result from implementing expenditure targets in the Medicare program. Further discussion resulted in the adoption of a motion by Council that an 8th grade level readability paper be prepared to inform the public of the federal government's plan to place Expenditure Targets on physicians and to encourage them to contact their congressional representative in an effort to defeat the ETs issue. This matter will be referred to the Public Relations Committee for immediate action.

AMA Report JJ - Health Insurance Coverage for Employees - Dr. Antlitz presented the following recommendations of the AMA as contained in Report JJ and moved adoption of Item (2) as it pertains to the state level:

> (1) That the AMA endorse the concept of a phased-in requirment that employers (limited initially to larger employers) provide health insurance coverage *within the private sector* for all full-time employees, with coverage expanding over several years and with a program of diminishing tax credits or other incentives to avoid adverse effects on employers, and
> (2) That Med Chi continue to study all approaches to providing health services for the uninsured and work with business groups to develop approaches that are best suited to the needs of small employers.

Following adoption of the motion, Dr. Nagel stated that he would develop an ad hoc committee of the Council for purposes of studying this issue and report back to the Council during the September semiannual meeting.

Professional Ethics Committee - Dr. Louis C. Breschi, Chairman, presented the following ethical statements with a request for Council approval. The Council took action as noted with each statement:

Walk-In Clinics - APPROVED

Proposed for Deletion:

14. Walk-In Clinics - The Faculty views walk-in clinics as serving a useful purpose to the community. (MC 6/17/69)

Relationship with Public Relations Media - APPROVED

The only change recommended to the original policy statement 9 (Relationship with Comunications Media) is to substitute "Public Relations" for former references to "Communications" Committee throughout policy statement 9.

Release of Information - APPROVED

Revised Statement:

103. Release of Information - Except as provided by law or as authorized by the patient, a physician should not release medical information about a patient to any person.

(Note: Deletion - In its review of the Council's

policy statement 10 on the release of information to retail credit organizations, the Professional Ethics Committee decided to delete that statement in its entirety as unnecessaary in light of its proposed revision of Ethical Statement 103 on Release of Information.)

Dr. Marvin Schneider pointed out that in certain situations involving PRO organizations, there is a question of violation of ethics in providing the requested information on patients. The Committee on Professional Ethics was asked to explore this issue and develop guidelines for use in situations dealing with managed care organizations.

Pronouncement of Death - REMANDED TO COMMITTEE

Proposed Revision:

102. Pronouncement of Death - A body should be identified, viewed, and death verified by a physician. An exception to this directive may occur if a physician has seen a terminal patient whose death is reasonably anticipated. In that case, a person who is capable of recognizing cessation of respiration and heart beat may verify death for the physician and so advise him in a reasonable period of time.

Discussion ensued that resulted in a proposal to delete the word "terminal," and to insert the following phrase at the beginning of the proposed policy statement: "Unless exceptional circumstances warrant otherwise,..." After discussion, the Council voted to refer the matter back to the committee with the proposed amendments for further consideration.

Physician/Pharmacist Code of Cooperation - TABLED

The Council discussed the Revised Code of Cooperation and adopted a motion to table the issue until the next meeting of the Council to provide time for a more thorough review by Council members.

High Blood Pressure Commission - Additional nominees were provided the Council for consideration of appointment to the Commission on High Blood Pressure and Cardiovascular Risk Factors due to the ineligibility of Dr. Hilary O'Herlihy to serve another term. The Council approved the following names to be submitted to the Department of Health and Mental Hygiene for consideration of appointment of one to the Commission:

Francis T. Daly MD, Towson (Internal Medicine)
Daniel G. Sapir MD, Baltimore (Nephrology/Internal Medicine)
Donald H. Dembo MD, Baltimore (Cardiology)

New Business

White Paper - Dr. Atkins informed the Council that a letter would be sent to committee chairmen requesting the preparation of "white papers" on various important subjects. This prompted a request from Dr. Cheryl Winchell, President of the Montgomery County Medical Society, that the presidents of the component societies be consulted so the components may choose whom they wish to serve on Med Chi's committees. Dr. Atkins explained that each member of Med Chi, early in the year, is sent a card which lists the committees with a request to indicate their interest. Dr. Atkins further stated that he had asked some people with specific expertise to work with the committees in the preparation of the white papers.

Montgomery County Medical Society Statement - Dr. Lawrence Fink, Montgomery County, presented the following position statement to the Council:

> The Montgomery County Medical Society condemns, without reservation, the recent rump session meeting of members of the Executive Committee and selected members of component medical societies. This is not the first such meeting, which circumvents the bylaws and democratic process of this medical faculty.
>
> It is particularly ironic - and noteworthy - that several of the participants in this meeting were the same individuals who had voiced strenuous objection to the proposed amendment seating the Vice-Presidents on the Executive Committee, ostensibly because this would give inordinate power to the Committee, in place of Council.
>
> The Montgomery County Medical Society wishes also to serve formal notice that it will not accept representation by individuals who are chosen by others, outside of our component society, and who are not duly elected or appointed by our society as our representatives. We specifically disavow and disassociate ourselves from such individuals and from any policy-making decisions which affect our society, absent such representation.

Dr. Fink requested that this statement be placed in the minutes verbatim. No other comments were received and the Council Chairman so noted the request. Dr. Lewers, while not commenting on the Montgomery County statement, made a plea for continued unity and suggested that medical societies look at their similiarities, rather than focusing on their perceptual differences.

Emeritus Members - The following recommendation for Emeritus membership in the Faculty was approved for submission to the House of Delegates for consideration:

Baltimore County Seymour Weiner MD, Phoenix, Md.

Dues Waivers - 1989 Dues Waivers were granted to the following physicians:

Baltimore City Antonio K. Olmedo MD, Towson
Montgomery County John H. Bouma MD, Kensington

40-Year Membership Granted - Council voted to grant 40-year membership in the Faculty to the following physician as requested by the component society indicated

Baltimore City Eugenie E. Phillips MD, Baltimore

■ ■ ■

Executive Committee - July 20, 1989

Old Business

Position Papers - The Executive Committee was advised that Committee Chairmen have been requested to develop "white papers" on various subjects

that may become legislative issues in 1990. In addition, individual physicians with specific expertise have been added as ad hoc members to those committees charged with the responsibility of developing "white papers." It is envisioned that these papers will be developed by September 1, 1989 so they can be mailed to the component societies prior to the semiannual meeting. Any modifications will be made prior to the Council meeting during the seminannual meeting for presentation at the morning session of the House of Delegates on September 15, 1989.

Committee Reports

Committee on AIDS - The Executive Committee reviewed the minutes and recommendations from the Committee on AIDS meeting of June 9, 1989. After review and discussion, the Executive Committee will advise the Committee on AIDS to work conjointly with the Public Relations Committee in the development of AIDS educational programs for the public and Maryland school systems and report back to the Executive Committee. The request from the Committee on AIDS to forward a letter to all component societies asking them to encourage physicians who are treating AIDS and HIV-infected patients be placed on a referral list was discussed. This matter was previously addressed by the Committee on Professional Ethics, with the result that the AIDS Committee not set up a central referral system the medical community could use to obtain assistance in the management of AIDS/HIV positive patients. The Executive Committee agreed that this recommendation was still the appropriate avenue to follow at this time. The Executive Committee rejected the recommendation that members of the Committee on AIDS be allowed to represent Med Chi before the Legislature. The Committee on AIDS will be directed to identify such concerns in the development of the "white paper" on AIDS.

Public Relations Committee - Council, during its June 29, 1989, requested the Public Relations Committee to develop a flyer that could be easily understood by a person of an eighth grade education and that would feature names and telephones of the Maryland Congressional Delegation counties for the purpose of informing both physicians and patients about Expenditure Targets (ETs). The flyer was mailed to all Component and Specialty Societies and members of the Med Chi House of Delegates and will be available to all Med Chi members in the August issue of *Maryland Medical Journal.* In addition to the flyer, letters describing the negative aspects of ETs were mailed to the editors of *Baltimore Sun* and *The Washington Post.* On July 18th, Med-Chi mailed letters to the eight members of the Maryland Congressional Delegation urging them to oppose ETs. Gerry Evans personally telephoned each member of the Maryland Congressional Delegation to state Med Chi's position on ETs.

The Public Relations Committee also recommended during its July 19, 1989 meeting that the following action be taken in regard to ETs.

- Med Chi should initiate an auxiliary telephone campaign to ask physicians to educate their Medicare patients on ETs and encourage them to phone their congressmen.
- Med Chi should send editorials explaining ETs to publications for senior citizens.
- Med Chi's component societies should work with local senior centers to educate Medicare recipients on ETs.
- Med Chi should develop a new flyer on ETs to send to physician offices and senior centers throughout the state.

Public Health Committee - The Executive Committee accepted the June 20, 1989 minutes of the Public Health Committee. Dr. Harrold Elberfeld, Chairman of the Subcommittee on Maternal Welfare, has prepared a draft letter of response to Delmarva Foundation concerning implications of birth of live fetuses in second trimester. Background information revealed that Dr. R. Lane Wroth, Medical Director of Delmarva Foundation, wrote to Dr. John Hawkinson requesting the Maryland Obstetrical/Gynecology Society's guidance regarding second trimester therapeutic abortions. The Executive Committee deferred action on the draft letter of response and agreed that the Maryland Obstetrical/Gynecology Society should formally request an opinion from Med-Chi on this issue through the Subcommittee on Maternal Welfare. This information will be relayed to Dr. Rivers.

Ad Hoc Committee on Employee Health Insurance Coverage - The Executive Committee accepted for information the appointment of an ad hoc committee to continue to study all approaches to providing health services for the uninsured. The Ad Hoc Committee will make its report to the Council at the Seminannual Meeting in Ocean City, September 14-16, 1989.

Committee on Drugs - The Executive Committee reviewed the minutes of the Committee on Drugs of July 11, 1989. The Executive Committee adopted a motion to forward a letter to the Governor's Advisory Council on Drug Abuse requesting that the Medical and Chirurgical Faculty of Maryland be allowed to provide formal input into the 1990 Legislative Session regarding triplicate prescriptions.

Committee on Managed Care and Third-Party Liaision - Dr. Aristides Alevizatos, Chairman of the Committee on Managed Care and Third-Party Liaison, presented recommendations from the Committee on Managed Care and Third-Party Liaison meeting of July 12, 1989. Recommendation #1 would allow committee members to proceed with meetings involving the senior executive staff and members of the Board of Directors of Blue Cross and Blue Shield of Maryland to address concerns of the physicians in Maryland. The Executive Committee adopted a motion to approve recommendation #1 to include other

third-party health care providers. The Executive Committee was advised that a reorganization of Maryland Blue Cross and Blue Shield was in process.

Recommendation #2 would direct the Legislative Committee to address Article 48A, Section 470U requiring reimbursement within 30 days of the proper filing of a claim with all necessary documentation. The law does not apply to claims to which there is a good faith dispute regarding the legitimacy of the claim on the appropriate amount of reimbursement. The Executive Committee referred recommendation #2 to Governmental Relations for immediate action as well as charged the Committee on Managed Care and Third Party Liaison with the responsibility of developing a "white paper" on proposed legislative activity.

Recommendation #3 requests that the Executive Committee authorize the evaluation legal or legislative channels available to correct the problems encountered with independent auditing companies. The Executive Committee asked legal counsel to investigate the legality of these auditing companies and report back to the Executive Committee and Committee on Managed Care and Third-Party Liaison.

Recommendation #4 requests that an announcement be placed in the *MMJ* encouraging Faculty members to report reimbursement problems to the Committee on Managed Care and Third-Party Liaison. The Executive Committee approved this recommendation.

Committee on Hospital Medical Staffs - Dr. Victor Hrehorovich, Chairman of the Committee on Hospital Medical Staffs, presented the following resolutions for consideration by the Executive Committee.

Recommendation #1 proposes that third-party funds paid to hospitals toward designated and legally mandated medical quality assurance peer review and credential activities be directed to the organized medical staffs to support the required activities, permit the medical staffs to engage in the necessary administrative support, and compensate medical staff officers and committee members devoting the required time to properly discharge these obligations. The Executive Committee supports this resolution in principle and will forward it to Council for consideration.

Recommendation #2 requests that the Medical and Chirurgical Faculty of Maryland consider developing a uniform due process and fair hearing procedures for all hospital medical staff members whose privileges may be restricted prior to the reporting of such actions to state and federal agencies. The Executive Committee supports this resolution in principle and will forward this recommendation to Council for consideration.

Recommendation #3 requests that the Medical and Chirurgical Faculty of Maryland consider adopting the position that any Med Chi member serving on committees of outside organizations that may develop positions regarding standards of medical care should be designated by Med Chi to serve in such a capacity and receive appropriate compensation for professional time. Such selected Med Chi representatives should report to Med-Chi the ongoing activities of the stated organizations and be adequately prepared to present established Med Chi positions on the issues being considered.

Recommendation #4 requests that the Medical and Chirurgical Faculty of Maryland consider supporting the AMA Third National Medical Staff Conference, October 19-21, 1989 in Washington, DC and further requests that the Maryland Hospital Association and all elected hospital medical staff officers be notified about the advisability of attending this conference. The Committee on Hospital Medical Staffs also recommends that Med Chi consider developing a similar conference by the beginning of 1990 to address the same issues within the context of Maryland statutes and administrative regulations. The Executive Committee adopted a motion to approve this recommendation.

Committee on Scientific Activity - The Executive Committee was advised that the Accreditation Council for Continuing Medical Education approved reaccreditation of theMedical and Chirurgical Faculty of Maryland for two years. A deficiency noted by the Accreditation Review Committee with respect to the continuing medical education program was as follows: lack of documentation that the organization is integrally involved with all aspects of the projects that it jointly sponsors. The Committee on Scientific Activity will expand its version of the cosponsorship policy for presentation to the Council at its September 1989 meeting as well as to satisfy the requirements dictated by the Accreditation Council.

New Business

Panel Discussion - Cliff Gilbert, Executive Director, PGCMS, informed the Executive Committee that the University of Maryland is sponsoring a panel discussion on October 11, 1989 relevant to developing criteria for providing health care to senior citizens with a view toward age considerations. He requested a Med-Chi representative to appear on the panel.

■ ■ ■

Executive Committee - August 16, 1989

Alcoholism and Chemical Dependency Committee - The Committee on Alcoholism and Chemical Dependency requested adoption of a resolution on the "Responsibility for One's Behavior While Under the Influence of Alcohol," the resolving clause of which reads:

> Resolved, That the Medical and Chirurgical Faculty of Maryland supports serious consideration be given to requiring both treatment and legal sanctions in adjudication of alcohol related offenses such as DWI, as said legal sanctions may actually motivate a person to pursue a program of recovery.

The Executive Committee adopted a motion by Dr. Nakazawa to refer the resolution to Council for its consideration.

Committee on Scientific Activity - It was again reported that the difficulty Med Chi has been having in selecting sites for the annual meetings still exists due to the requirement of hotels that a certain number of their sleeping rooms must be booked in order to use their facilities for meetings.

Following discussion, the Executive Committee **adopted a motion** by Dr. Dobridge that the Scientific Activity Committee provide the Executive committee with specific recommendations as to prospective sites and costs associated with the annual meeting three years in advance of the meetings, and if sites cannot be found, consider changing the format of the meetings, and report back to the Executive Committee before the semiannual meeting in September.

Physician Rehabilitaion Committee - The Executive Committee discussed the financial section of the Physician Rehabilitation Committee's report of July 28, 1989, in which the committee expressed its opinion that "money brought in by the Physician Rehabilitation Program should be utilized by and for the Physician Rehabilitation Program."

The Executive Committee **adopted a motion** presented by Dr. Bob, as amended, that a letter be drafted to the Committee on Physician Rehabilitation indicating that final decisions concerning all Faculty funds must be made by the Council and that this had been addressed by the Executive Committee in a letter of April 7, 1987 to the Physician Rehabilitation Committee.

DHMH - Multiple Prescription Plan under Medicaid Program - Dr. Nagel proposed that a letter be sent to Mr. Nelson Sabatini in response to the DHMH's letter of August 10, 1989 in which they plan to send letters to Medicaid patients, age 65 or older, who are under the care of more than one physician. The DHMH letter will list the physician prescriber's name and the drug prescribed, and instruct the patient to share the letter with their physicians in an attempt to prevent unintended drug reactions.

Following a lengthy discussion, the Executive Committee **adopted a motion** by Dr. Bob authorizing a letter to be sent to Mr. Sabatini (copy to Dr. Gary Rosenberg, Chairman of the Liaison Committee with the DHMH and Dr. Susan Guarnieri, Legislative Committee Chairman), indicating Med Chi's displeasure with the manner in which this program was conveyed to Med Chi. In particular, a luncheon meeting with Mr. Sabatini was held on August 9 with Drs. Susan Guarnieri and Gary Rosenberg being present, as well as Med Chi staff, Gerry Evans and Angelo Troisi, and there was no mention of the program. It was felt by the Executive Committee that Mr. Sabatini should have informed Drs. Guarnieri and Rosenberg of this new "notification to patients" program during the meeting of August 9, rather than the way in which it was addressed.

It also was moved that the letter indicating Med Chi's displeasure should be forwarded by the President, who was out of state on official business and was not present to accomplish that task. It was then moved and approved that the President-elect sign the letter that was read to the Executive Committee.

Dues Billing Language - As Acting Chairman of MPAC, Dr. Bob reported that because language on the current dues bill instructs members to write a check for their MPAC dues on a personal check as opposed to a corporate check, it may restrict physicians from writing a check for MPAC.

Dr. Bob presented a **motion, which was adopted**, that the Executive Committee authorize a change in the sentence on the current dues bill regarding MPAC dues that reads "If your practice is incorporated, MMPAC and AMPAC voluntary political contributions should be written on a PERSONAL CHECK." The new language to be incorporated on the dues bill is as follows:

> Contributions may be written on corporate or personal checks. Those using personal checks will be members of MMPAC and AMPAC....

Law Firm of Rifkin, Evans, Silver and Lamone - Following an introduction of Mr. Alan Rifkin and Mrs. Linda Lamone to the Executive Committee, Gerry Evans announced that he had signed an agreement with Alan Rifkin, Judge Edgar Silver, and Linda Lamone today to join as partners in the law firm of Rifkin, Evans, Silver and Lamone. He also stated that Jean Bienemann has resigned from the Faculty and had accepted a position with the state. At Dr. Nagel's request, Mr. Rifkin and Mrs. Lamone provided information on their legal background. A contract for professional services between Med Chi and the law firm was offered. Further discussion of this matter was deferred to executive session.

■ ■ ■

Executive Committee Special Meeting - August 24, 1989

Finance Committee - The Executive Committee reviewed and accepted the Parliamentarian's explanation of the bylaws, Article III, Finance, Section 10.

Following discussion of the report of the Finance Committee, a motion was adopted to forward the report to the Council. ■

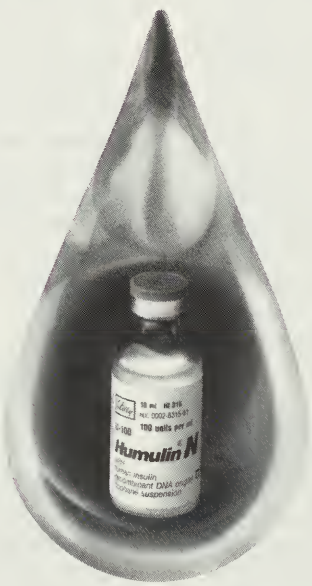
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AMA-ERF - The Blitz Is On

What is AMA-ERF? And why should you support it? Those questions will be answered in medical society and auxiliary publications and meetings across the nation during the next two months, as a result of a publicity blitz launched by the AMA Auxiliary AMA-ERF Committee. Those who wonder why the committee would choose as an audience the very people who have helped the AMA Auxiliary contribute $48 million to the American Medical Association Education and Research Foundation since 1953 have only to listen to AMA-ERF Committee Chairman Gayanne Burns. "We believe we need to remind physicians and their spouses how important it is that they support medical education today and why AMA-ERF is the vehicle through which to do it for two reasons."

"First, many of our long-term members and their physician-spouses have become so used to giving to AMA-ERF that they don't think about what it is and why they are giving," Mrs. Burns said. "As a result, they may not realize that their contributions are more important today than ever, and new auxiliary members often don't have any idea what the foundation is or why we urge them to support it.

"Second, we find that some people think money goes to help some community across the nation. Sometimes they choose to support something closer to home," Mrs. Burns went on. "We want people to know that when they designate contributions to AMA-ERF to their local medical school, those contributions will stay at home."

Mrs. Burns feels strongly that the medical community should support AMA-ERF—so strongly that she turned down two highly prized local volunteer positions in Chattanooga, TN to chair the AMA Auxiliary's committee. The reason is highly personal but one to which she believes many auxiliary members can relate. "When I was a brand new member of the auxiliary, I didn't understand what AMA-ERF was or why I should support it. I think I had been active for more than a year when, after an auxiliary meeting at which I was asked to contribute to the foundation, I asked my husband if he knew about AMA-ERF. He said that when I wrote a check to pay back his medical education loan every month, I was returning money AMA-ERF had helped him get. Like many medical students, he needed money to pay for his education. And like many medical students, he had no one to co-sign for a loan. AMA-ERF did it for him, and he has never forgotten it. It means so much to him."

In 1980, due to economic conditions, the foundation was forced to suspend the Guaranteed Loan Program that helped L. Phillip Burns and many other medical students attain their MD degrees. But not before AMA-ERF had arranged and guaranteed more than $95 million in bank loans for medical students in need of funds. Unlike Dr. and Mrs. Burns, many of those who received the loans have defaulted, leaving the foundation responsible for their debts. As of December 31, 1988, $8.1 million in loans remain outstanding, while $12.6 million have been purchased by AMA-ERF as defaulted loans. Today, those who support AMA-ERF can choose to designate contributions to one of two funds:

- the Medical School Excellence Fund, which provides grants to medical schools to use as they see fit—for building improvements, faculty salaries, library books, or student loans and grants; or
- the Medical Student Assistance Fund, which provides money to medical schools to use in direct financial aid to students.

In addition to designating contributions to the fund of choice, contributors can decide where their contributions will be used. Contributions to the foundation's Medical School Excellence Fund, for example, can be designated to benefit an alma mater or local medical school. Contributions to the foundation's Medical Student Assistance Fund can be donated to benefit students at a particular medical school, but not particular students. In addition to these funds, the foundation has a Development Fund, used at the discretion of the AMA-ERF Board of Directors to support pilot and experimental health and medical programs; and Categorical Funds, which are provided to specific research areas that last year included biomedical research in rheumatoid arthritis, non-lymphocytic leukemia, muscle regeneration, and the origin of AIDS in the United States. AMA-ERF also awards the annual Rock Sleyster Memorial Scholarship. Established in 1974 by a bequest from the widow of AMA Past-President Rock Sleyster, the scholarships go to medical students in their last year of medical school who have demonstrated a specific interest in psychiatry. The AMA-ERF Committee hopes this and other information will be communicated through the publicity blitz, which will focus on both the national scope of AMA-ERF and how it affects local communities. The committee has asked its state and county auxiliary counterparts to place articles about the foundation in auxiliary and medical society publications in September and October, as well as to schedule informational programs at medical society and auxiliary meetings. In addition, state and county AMA-ERF Committees have been asked to contact the deans of local medical schools to ask them to write letters that can be shared with medical society and auxiliary members and that outline what the foundation has meant to their schools and their students. Mrs. Burns believes that the all-out effort will result in more support for the foundation and its work because people will understand what AMA-ERF is and does,

as well as why the foundation needs their continued support.

"We want the medical community to feel what we feel—a responsibility to make sure that medical schools have money to train their students to maintain the quality of medical care today's doctors have worked so hard to establish," Mrs. Burns said. "And we want them to understand how urgently the foundation needs their support if that goal is to be accomplished."

For more information on the American Medical Association, Education and Research Foundation, contact Maryland Auxiliary's AMA-ERF State Chairman, Elizabeth Linhardt (Mrs. Elmer G.), 3 Chesapeake Ave., Annapolis, MD 21403 or Med-Chi's Auxiliary office.

This article appears with permission of the National AMA-ERF Chairman, Gayanne Burns. ■

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Announcement

American Medical Association
Hospital Medical Staff Section
Fourteenth Assembly Meeting
November 30 - December 4, 1989

Medical Staffs from across the country are encouraged to elect a medical staff representative to participate in the AMA-HMSS Assembly meeting November 30 - December 4, 1989 at the Sheraton Waikiki Hotel in Honolulu.

The HMSS Assembly provides medical staffs with a unique opportunity to discuss and participate in the policymaking process of the AMA. In addition to the Assembly Meeting, the HMSS will sponsor an educational program on a topic of interest to medical staffs.

For further information about the AMA-HMSS, please call 312-645-4754 or 645-4761.



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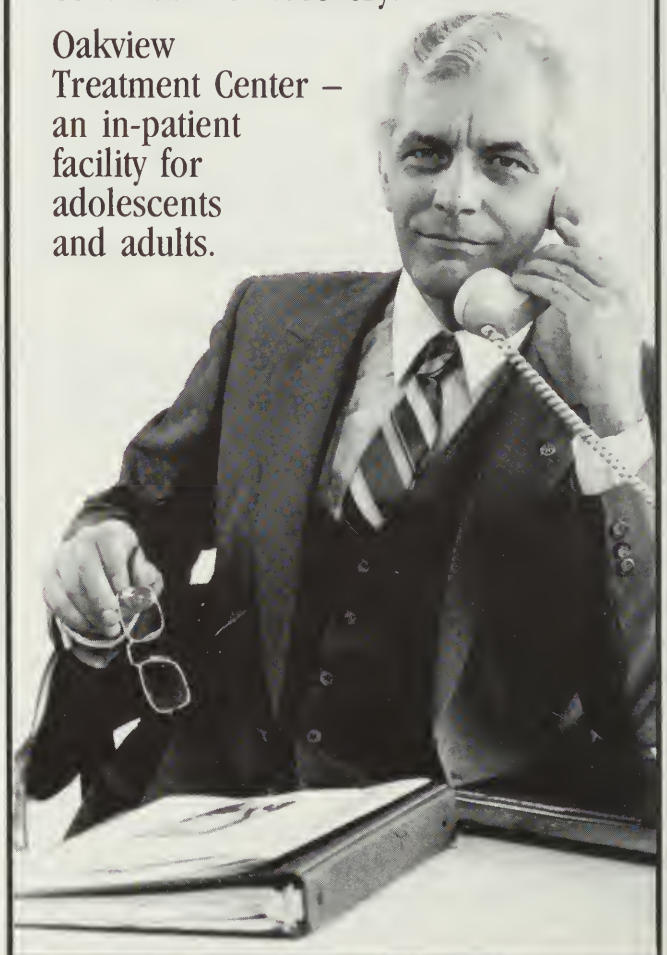
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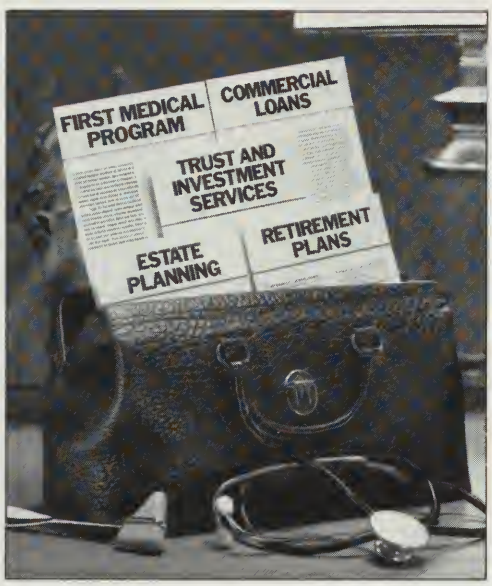
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In the Matter of
Vincent Tomasino MD
Before the
Maryland Board of
Physician Quality Assurance

Application for Reinstatement
Consent Order

On December 27, 1983, the Commission on Medical Discipline (the "Commission") charged Vincent Tomasino MD (the "Applicant") with violation of the Maryland Medical Practice Act (the "Act"). Specifically, the Commission charged Applicant under Section 14-504 (3) of the Act which states:

> Subject to the hearing provisions of Section 14-504 of this subtitle, the Commision on the affirmative vote of a majority of its full authorized membership, may reprimand any licensee, place any licensee on probation, or suspend of revoke a license if the licensee is guilty of immoral conduct in the practice of medicine.

The basis for the charge was that Applicant has a sexual relationship with a female psychiatric patient while he treated the patient from August 1980 through April 1982.

On December 28, 1988, the State Board of Physician Quality Assurance (the "Board") notified Applicant of the Board's intent to deny reinstatement of Applicant's license to practice medicine in the State of Maryland pursuant to Section 14-305 (a) of the Act. Section 14-305 (a) of the Act provides that to qualify for a license, the applicant must meet certain requirements. One of the requirements is that the applicant shall be of good moral character. See Md. Health Occ. Code Ann. Section 14-305 (b) (1988 Cum. Supp.). The Board charged that Applicant did not possess good moral character. The notice of Intent to Deny Reinstatement alleged the following:

1. Applicant was licensed to practice medicine in the State of Maryland under License Number D16338. Applicant's license expired September 30, 1987, when the Applicant failed to submit a renewal application.*
2. On January 19, 1988, the Board of Medical Examiners received an Application for Reinstatement of License.
3. From August 1980 through April 1982, Applicant engaged in sexual relations with a psychiatric patient whom Applicant was treating for a psychiatric problem.
4. Having sex with a patient is indicative of a lack of good moral character.
5. On February 18, 1988, the Board of Medical Examiners voted to deny applicant's application for reinstatement on the grounds that Applicant lacked good moral character. The Board of Medical Examiners notified Applicant of this action and informed Applicant of his right to request a formal hearing in a letter to Applicant on April 7, 1988.
6. On June 23, 1988, the Board of Medical Examiners met with Applicant and William Ehrmantraut, Counsel for Applicant.†
7. On June 30, 1988, the Board of Medical Examiners notified Applicant that the Board of Medical Examiners upheld their previous decision to deny the application for reinstatement on the ground of "lack of good moral character."

Findings of Fact

1. Applicant was licensed to practice medicine in the State of Maryland on February 28, 1974. Although Applicant did not submit a renewal application on or before September 30, 1987, Applicant's license did not expire on September 30, 1987, because of the pending disciplinary action by the Commission. Applicant is currently licensed to practice medicine in Maryland.
2. From August 1980 through April 1982, Applicant had a sexual relationship with a female psychiatric patient whom Applicant was treating for a psychiatric problem.
3. Applicant, recognizing the inappropriate and improper nature of such conduct sought and received psychiatric treatment from Dr. Robert M.A. Hirshfeld from May 21, 1984 until January 1987. Since then Dr. Hirshfeld saw Applicant in June 1987, December 1987, January 1989, and February 1989.
4. Applicant admitted that the conduct described in paragraph 2 above represents immoral, unacceptable, and grossly inappropriate professional behavior and can be damaging to the patient.
5. There is no evidence that similar activities of the kind described in Paragraph 2 above have occurred in Respondent's practice since 1982.
6. Since June 1983, Applicant has not practiced medicine in Maryland.
7. Since September 1983, Applicant has been employed full time for the Veterans Administration Hospital in Washington, DC in the inpatient department and the outpatient clinic.
8. Psychiatric evaluations by Dr. Jonas R. Rappeport and Dr. Robert M.A. Hirschfeld found that the conduct described in paragraph 2 above is not likely to occur.

Conclusions of Law

Based on the foregoing findings of Fact, the Board concludes:

*Applicant failed to timely submit such an application because such application was mailed to an incorrect address, thereby causing an untimely filing by the applicant.

† This June 23, 1988 hearing was an informal one and thus not the formal hearing contemplated by paragraph 5.

1. Applicant violated Md. Health Occ. Code Ann. Section 14-504 (3) (1981);and

2. Applicant has demonstrated that he would otherwise qualify for licensure in accordance with Md. Health Occ. Code Ann. Section 14-305 (1988 Cum. Supp.).

Order

Based on the foregoing Findings of Fact, it is this 4th day of August 1989,

ORDERED that Vincent Tomasino MD, a physician licensed to practice medicine in Maryland is hereby formally Reprimanded; and it is further

ORDERED that the Board shall renew Applicant's application for reinstatement of this license to practice medicine in Maryland subject to the following conditions:

1. Applicant shall notify the Board by certified mail return receipt requested, when he intends to open a private psychiatric practice; the psychiatric practice shall be limited to treating male patients for one (1) year;

2. Applicant may begin seeing female patients in the private psychiatric practice *only* after prior approval by the Board, and that approval may not be requested prior to one year from the date on which Applicant begins a private psychiatric practice.

3. Applicant's private psychiatric practice shall be supervised by a psychiatrist approved by the Board once every three months for a period of one (1) year beginning three (3) months after the date he begins private psychiatric practice;

4. Applicant's psychiatric practice shall be subject to peer review by a peer review committee designated by the Board in six (6) month intervals for a period of three (3) years beginning six (6) months after Applicant notifies the Board that he is starting his private psychiatric practice;

5. Applicant shall continue to receive psychiatric care from Dr. Robert M.A. Hirschfeld and shall arrange to have Dr. Hirschfeld submit quarterly written reports, the first to be due three (3) months from the date of this Consent Order, to the Board evidencing his continuing cooperation and satisfactory progress. Applicant's continuing psychiatric care under Dr. Hirschfeld shall terminate one (1) year from the date of this Consent Order; and it is further

ORDERED that any public disclosure of the foregoing findings of Fact and Conclusions of Law shall consist of the contents of this Order as permitted by Md. State Government Article Code Ann. Section-10-617(h) (1984).

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

Consent

By this Consent, I hereby accept and agree to be bound by the foregoing Order and its conditions and restrictions, consisting of six pages.

1. By signing this consent, I hereby submit to this Order and its conditions. I acknowledge the Board's jurisdiction and the validity of this Order as if made after a hearing at which I would have had the right to counsel, to confront witnesses, to give testimony, to call witnesses on my own behalf, and to all other substantive and procedural protection provided by law. I also recognize that I am waiving my right to appeal any adverse ruling of the Board that might have followed any such hearing. By this consent, I waive all such rights. Should the Board not approve this Consent, Applicant shall not waive any right to a formal hearing and an attendant appeal.

2. I understand that if I fail to comply with the conditions enumerated above, then the Board may act on the Notice of Intent to Deny Application for Licensure after notice and an opportunity for a hearing.

3. I am represented by William Ehrmantraut, Esquire, and I have consulted with him before signing this Order. I sign this Order voluntarily, fully understanding its meaning.

VINCENT TOMASINO MD ■

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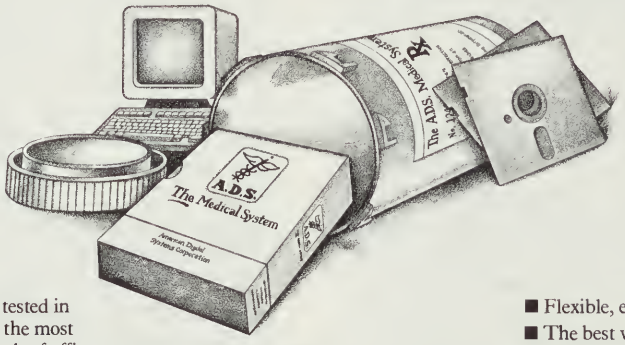
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Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

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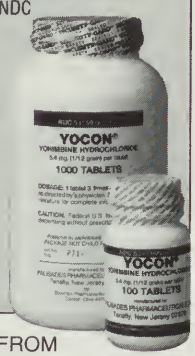
Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

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References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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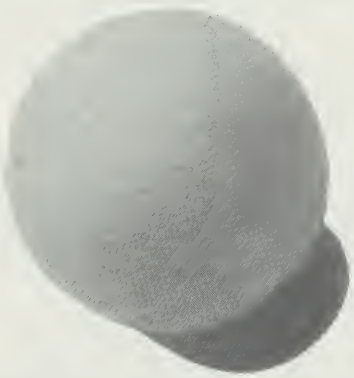
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Lee A. Goodman MD, Baltimore, and *Gerald S. Johnston MD*, Bethesda, recently were named as Fellows of the American College of Radiology (ACR) at the ACR annual meeting in Seattle, WA. Selected for their outstanding contributions to the field of radiology, Drs. Goodman and Johnston were named among the 107 new Fellows by the College's Board of Chancellors.

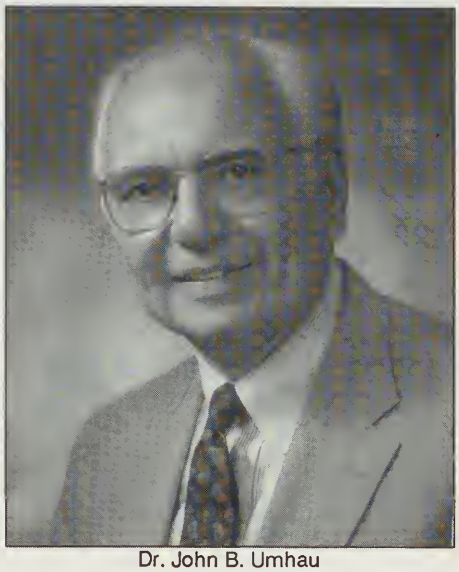
Fellowships in the College are awarded for significant scientific or clinical research in the field of radiology or significant contributions to its literature. Criteria for selection also include performance of outstanding service as a teacher of radiology, service to organized medicine, and an outstanding reputation among colleagues and the local community as a result of long-term superior service.



Dr. Theodore C. Patterson

Theodore C. Patterson MD, Dundalk, was elected President of the Medical Alumni Association of the University of Maryland, Inc. at the 114th Annual Reunion. A 1962 graduate of the University's School of Medicine, Dr. Patterson served a three-year term on the Board of Directors of the Alumni Association, as well as holding the office of President-elect in 1988-89.

On staff at Franklin Square and Church Hospitals and Harbor Medical Center, Dr. Patterson is a diplomate of the American Board of Family Practice and a charter member of the American Academy of Family Practice. Dr. Patterson is a past-president of the Baltimore County Medical Association.



Dr. John B. Umhau

John B. Umhau MD, Chevy Chase, a 1952 graduate of The George Washington University School of Medicine, has been named president of the School's Alumni Association. A Family Physician, Dr. Umhau is past-president of the Montgomery County Medical Society, The Maryland Academy of Family Physicians, and the Metropolitan Council of Medical Societies. He served on the Council of Med Chi for many years. He is chairman of the Family Practice Section of the Southern Medical Association.

Referring to the more than 700 alumni of The George Washington University School of Medicine who live in Maryland, Dr. Umhau said, "We hope to involve many more local alumni in events sponsored by the Association."

■ ■ ■

Frederick W. Walker MD, Forest Hill, directed a study session on the anatomy of the hand at the National Youth Science Camp held in Bartow, WV in July. The camp honors the two top science students, graduated from high school, for each state and from the District of Columbia, with three weeks of intensive lectures, seminars, directed studies, and outdoor activities. This program is unique in the nation and has been ongoing for 26 years.

Dr. Walker's sessions enabled 12 of the campers to perform dissections under supervision and to present their findings to the remainder of the camp members. Dr. Walker is a practicing General and Hand Surgeon in Harford County. ■

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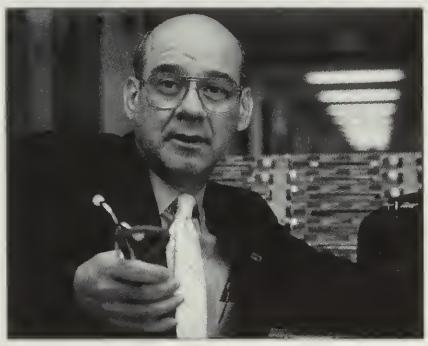
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November 10-12 — **Principles and Practice of MRI**, Sheraton Inner Harbor Hotel, Baltimore. Fee: $395, $200 those in training; 20.5 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

November 17 — **Diabetic Retinopathy in 1989**. Fee: $200, $100 those in training; 8 AMA Cat I credits. Info: J. Nutt 301-955-2959.

Dec 7-9 — **Second Annual Wilmer Institute Current Concepts in Ophthalmology**. Fee: $250, $200 (those in training); 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

January 22-26 — **17th Annual Geriatric Symposium: A Board Review**, Stouffer Harborplace Hotel, Baltimore. Fee: $465 before November 10, $540 thereafter; 33.5 AMA Cat I credits, AAFP prescribed hours.

March 22-23 — **Symposium on Dysphagia III: Basic Concepts of Swallowing and Swallowing Disorders**. Fee: $350 physicians, $175 residents and allied health professionals; AMA Cat I and other appropriate credits pending. Info: J. Ryan 301-955-2959.

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Basic Practicum in Diagnostic Ultrasound: Nov 6-10. Fee: $500; 40 AMA Cat I credits.

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Course A materials will be sent each participant within the US and Canada for home study. Participants *outside* the US and Canada must make arrangements to study Course A before Course B. *The entire course is given in English.*

Application and preregistration advised ASAP; preregistration must be completed **before March 23, 1990** unless by special arrangement. Info: J. Frost MD, 111 Pathology Bldg., The Johns Hopkins Hospital, Baltimore, MD 21205 USA (301-955-8594).

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CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.

November 10
Clinical Neuroimmunology Synmposium, Baltimore Marriott Inner Harbor Hotel, 9 a.m. - 5:30 p.m. Info: Dept. Neuroology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

November 11
Neurology and Music at Maryland - Session I, Updates on available diagnostic evaluation procedures for neurologic problems plus pertinent information on stroke. A day of medical education, an evening of entertainment by the Baltimore Symphony Orchestra. Info: Dept. Neurology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

November 30
Dean's Conference #2: How to Manage Common Emergencies - Part 2, UMAB Campus, Baltimore. Fee: $35; 6 AMA & AAFP credits.

December 13
Dean's Conference #3: Common Medical Problems, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

January 25
Dean's Conference #4: Common Psychiatric Problems, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

Febuary 23
Dean's Conference #5: Advances in Clinical Therapeutics, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA and AAFP credits.

Febuary 24
Neurology and Music at Maryland - Session II, Reports on epilepsy, pain and recurring disorders, and multiple sclerosis, AIDS, and other neurologic infections. A day of medical education, an evening of entertainment by the Baltimore Symphony Orchestra. Info: Dept. Neurology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

March 9-10
Third Symposium on Urologic Cancer, Harbor Court Hotel, Baltimore. Fee: $175; 11 AMA Cat I credits.

March 18-20
Twelfth National Trauma Symposium: Cross Roads in Trauma Care...Paving the Way to the 21st Century, Baltimore Convention Center. Info: K. Unitas or T. Young 301-328-2399 or FAX 301-328-8514.

March 22
Dean's Conference #6: New Approaches in the Care of the Elderly, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

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Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.
Nov 16-17 - Provider Dec 14-15 - Provider

MISCELLANEOUS MEEETINGS

November 4	**Psychiatry Symposium: The Interface of Medicine and Psychiatry**, St. Joseph Hospital, Towson. Info: S. Cole 301-337-1647.
November 5-8	**83rd Annual Scientific Assembly of the Southern Medical Association**, Washington Convention Center, Washington, DC. Info K. McLendon 800-423-4992.
November 19-21	**4th National Forum on AIDS and Hepatitis B**, co-sponsored by AMA and 52 other health-related organizations. Info: National Foundation of Infectious Diseases, 4733 Bethesda Ave. - Ste. 750, Bethesda, MD 20814 (301-656-0003).
December 8-9	**Physicians, Family, and Addictions**, Royce Hotel, Williamsburg, VA. Sponsored by the Medical Society of Virginia, Physicians Health and Effectiveness Program. Info: J. Douglas 804-353-2721.

Shady Grove Adventist Hospital, 9901 Medical Center Drive, Rockville, MD. Info: 301-279-6000.

November 2	**Pulmonary Update**
November 9	**Hypoatremia/Diuretics**
November 16	**Reproductive Dysfunction in Cancer Patients**
November 30	**Wolf-Parkinson-White Syndrome**
December 7	**Hospice Care**
December 14	**Medical Management of Recurrent Stone Disease**
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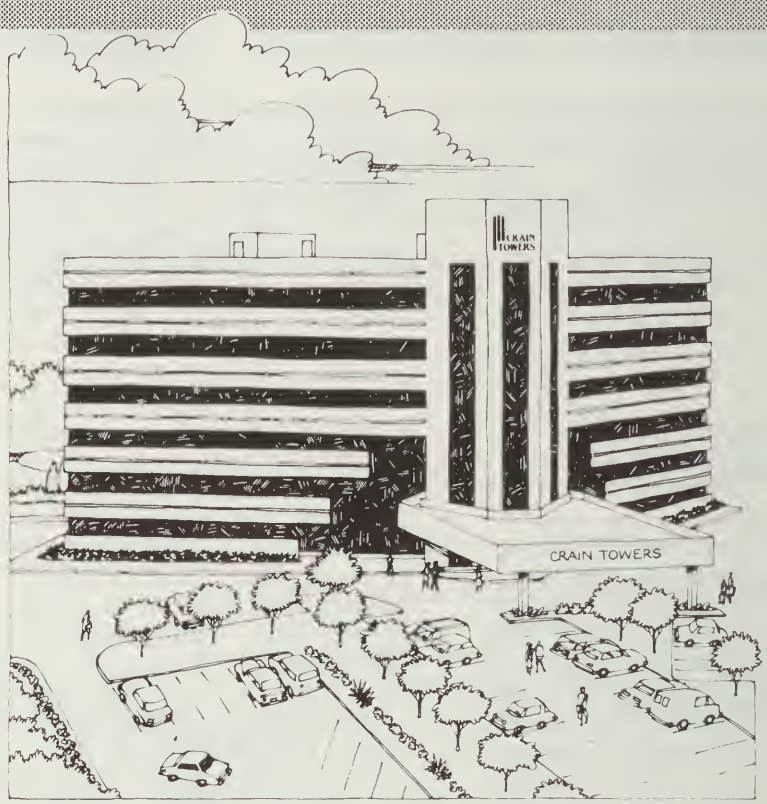
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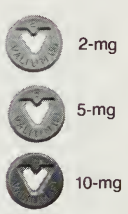
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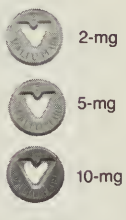
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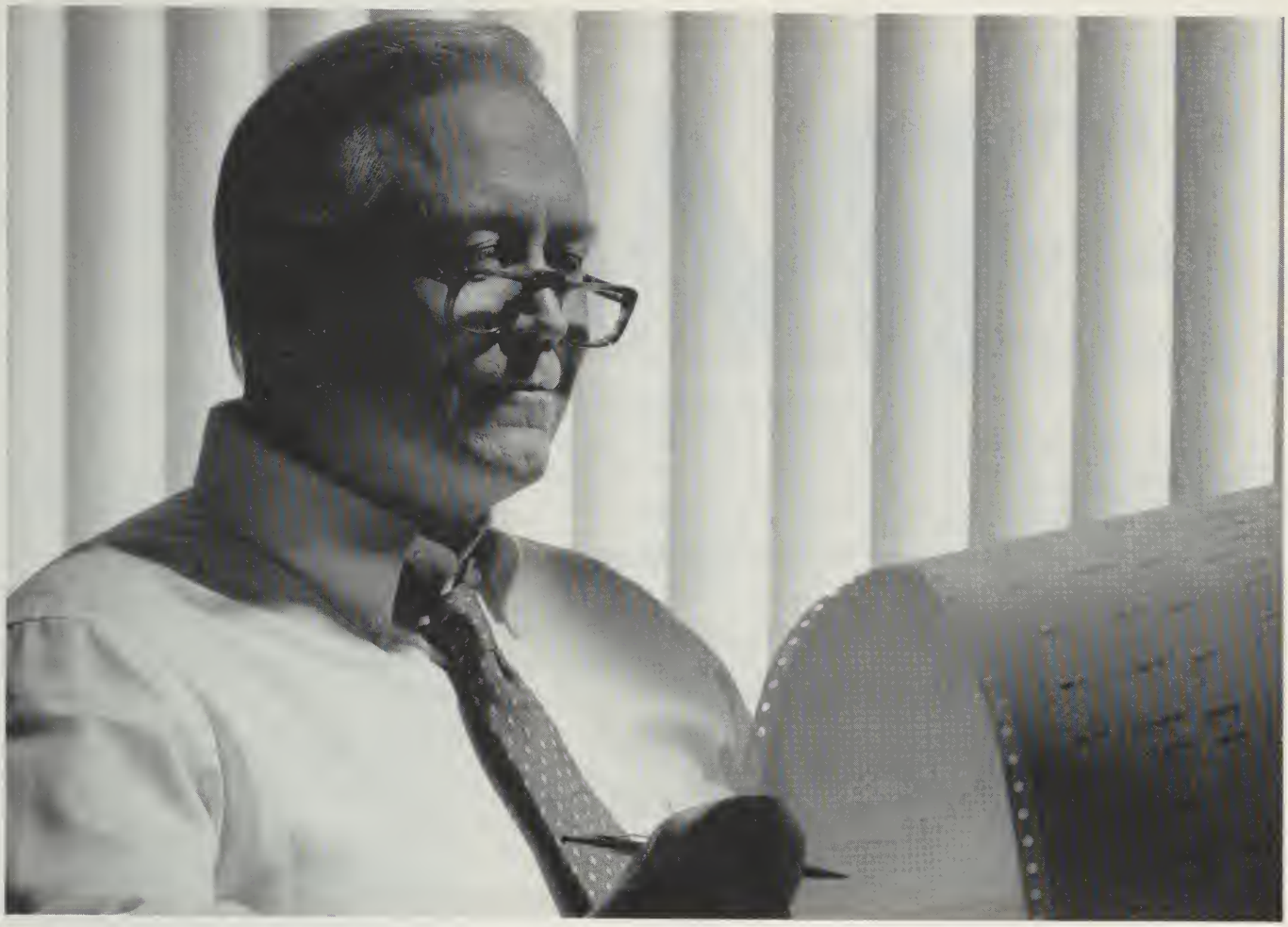
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DECEMBER 1989 VOLUME 38 NO 12

ARTICLES

Prevalence of Risk Behaviors and HIV Infection in Maryland STD Clinics 1019
Diane L. Matuszak MD, MPH; Indira Kotval MPH; Rekha Garg MD, MS; Jagdish Patel PhD, Ebenezer Israel MD, MPH; and David Glasser MD, MPH

Persons who are receiving evaluation and treatment for sexually transmitted diseases are at moderately increased risk for acquiring HIV infections. The scope of STD clinic services should be broadened to include counseling, education, and referral services for health needs related to risk of HIV infection.

Prehospital Providers' AIDS Knowledge and Attitudes 1027
Michael E. Thompson MS and James N. Eastham, Jr., ScD

Of the 110 career and volunteer prehospital care providers surveyed from two Maryland counties, about 20 percent were concerned about dealing with AIDS patients, including 24 percent who have considered leaving EMS due to the risk of HIV infection.

The Head-Injured Outpatient: Presentations and Rehabilitation 1035
Antoinette DeFazio PhD, Mark P. Kelly PhD, and James P.G. Flynn MD

Head injury, which annually affects 154 per 100,000 persons in Maryland, is a serious problem requiring attention from the medical community. The role of the general practitioner is viewed as central to the process of rehabilitation since this medical professional has a pre-existent relationship with the patient and the family.

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Maryland Medical Journal
Tentative Editorial Calendar - 1990

January	Legislative Update
February	AIDS
March	Small Area Variation Analysis Studies
April	Presidential Issue + miscellaneous articles
May	St. Agnes Hospital
June	{undesignated}
July	Baltimore County General Hospital
August	Annual Reports (dedicated issue)
September	Breast Cancer/Mammography
October	GBMC - ANNIVERSARY ISSUE
November	{undesignated}
December	Semiannual Meeting and Reports + miscellaneous articles

Cover: First-place winner in Med Chi's Ninth Annual Photo Contest, April 1989
Adobe Building, Santa Fe, NM, by Jerrold M. Post MD, Montgomery County.

Occurrence-Type Malpractice Coverage Is A Physician's Best Protection During Bad Times

Most physicians have in some way been affected by the last decade's volatile malpractice insurance market. Huge premium increases, restrictions on lateral changes from one insurer to another, and the ever-present threat of large "tail" costs forcing physicians to stay put, like it or not, are all part of recent malpractice insurance history.

Times are better now with malpractice insurers competing for your business. How long will it last? That is anyone's guess. Where is the best place to be insured when the pendulum swings the other way and prices rise again?

The answer is easy. All other things (policy terms, premiums and financial stability of the insurer) being equal, a physician's best protection against " bad times" is an occurrence-type policy. The reason is simple:

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>
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For a written quotation comparing Princeton's coverage to your policy, complete the form below and return it to us with a copy of the Declarations pages of your current policy. You need a broker you can rely on.

Name _____

Address _____

County_____ OB-GYN's: number of deliveries per year _____

Phone Nos. Home: ( )_____ Work: ( )_____

Medical Specialty_____ Current Malpractice Insurer_____

Policy Renewal Date_____ Retroactive Date_____

Please return this form with copies of the Declarations pages of your malpractice policies. If there is more than one physician in your practice, a copy of this form should be completed for each physician in your group.

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12/1 MCJ

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DECEMBER 1989

CONSENT FORM FOR DIPHTHERIA, TETANUS, AND PERTUSSIS
CONSENT FORM FOR MEASLES, MUMPS, AND RUBELLA

Physicians need to provide adequate information to patients (parents) prior to administration of DTP, DT, Td, and MMR vaccines. These Important Information Statements may be useful in providing facts to the patient and/or parent. (NOTE: Maryland law also requires a Pertussis Pamphlet be given to parents prior to administration of pertussis vaccine.)

IMPORTANT INFORMATION ABOUT DIPHTHERIA, TETANUS, AND PERTUSSIS AND DTP, DT, AND Td VACCINES

Please read this carefully **DTP 1/1/88**

WHAT IS DIPHTHERIA?

Diphtheria is a very serious disease which can affect people in different ways. It can cause an infection in the nose and throat which can interfere with breathing. It can also cause an infection of the skin. Sometimes it causes heart failure or paralysis. About 1 person out of every 10 who get diphtheria dies of it.

WHAT IS TETANUS?

Tetanus, or lockjaw, results when wounds are infected with tetanus bacteria, which are often found in dirt. The bacteria in the wound make a poison which causes the muscles of the body to go into spasm. In the United States, four out of every 10 persons who get tetanus die of it.

WHAT IS PERTUSSIS?

Pertussis, or whooping cough, causes severe spells of coughing which can interfere with eating, drinking, and breathing. In the United States, approximately 70 percent of reported pertussis cases occur in children younger than 5 years. Pertussis is a more serious disease in young children and more than half of the children less than 1 year of age reported to have pertussis are hospitalized. In recent years, over 2,000 cases of pertussis have been reported each year in the United States. Complications occur in a substantial proportion of reported cases. Pneumonia occurs in one of every four children with pertussis. For every 1,000 reported pertussis cases, 22 develop convulsions and/or have more severe problems of the brain. In recent years, an average of nine deaths due to pertussis occurred annually.

Before vaccines were developed, these three diseases were all very common and caused a large number of deaths each year in the United States. If children are not immunized, the risk of getting these diseases will go back up again.

DTP, DT, AND Td VACCINES:

Immunization with DTP vaccine is the best ways to prevent these diseases. DTP vaccine is actually three vaccines combined into one shot to make it easier to get protection. Advisory committees of the United States Public Health Service and the American Academy of Pediatrics recommend DTP vaccine be used in children up to their seventh birthday. The vaccine is given by injection starting early in infancy. At least three shots are needed to provide initial protection. Young children should get three doses in the first year of life and a fourth dose at about 15 months of age. A booster shot is important for children who are about to enter school and should be given between their fourth and seventh birthdays. The vaccine is very effective at preventing tetanus—over 95 percent of those who get the vaccine are protected if the recommended number of shots is given. Although the diphtheria and pertussis parts of the vaccine are not quite as effective, they still prevent most children from getting disease and they make the disease milder for those who do get it.

Because pertussis is not very common or severe in older children, those 7 years of age or older should take a vaccine that does not contain the pertussis part. Also, because reactions to the diphtheria part of the vaccine may be more common in older children, those 7 years of age and older should take a form of the vaccine that has a lower concentration of the diphtheria part. This vaccine which contains no pertussis part and a lower concentration of the diphtheria part is called Td vaccine. Boosters with the Td vaccine should be received every 10 years throughout life.

DEFERRAL OF DTP IMMUNIZATION:

Children who have had a serious reaction to previous DTP shots should not receive additional pertussis vaccine (see WARNING). A preparation called DT vaccine is available for them which does not contain the pertussis part. Also, children who have previously had a convulsion or are suspected to have a problem of the nervous system should not receive DTP vaccine until a full medical evaluation has been made.

POSSIBLE SIDE EFFECTS FROM THE VACCINE:

With DTP vaccine, most children will have a slight fever and be irritable within 2 days after getting the shot. One-half of children develop some soreness and swelling in the area where the shot was given. More serious side effects can occur.

(PLEASE READ OTHER SIDE)

A temperature of 105°F or greater may follow 1 out of 330 DTP shots. Continuous crying lasting 3 or more hours may occur after 1 in every 100 shots and unusual, high-pitched crying may occur after 1 in every 900 shots. Convulsions or episodes of limpness and paleness may each occur after 1 in every 1,750 shots. Rarely, about once in every 110,000 shots, other more severe problems of the brain may occur, and permanent brain damage may occur about once in every 310,000 shots. Side effects from DT or Td vaccine are not common and usually consist only of soreness and slight fever. As with any drug or vaccine, there is a rare possibility that allergic or more serious reactions or even death could occur.

Although some people have questioned whether DTP shots might cause Sudden Infant Death Syndrome (SIDS), the majority of evidence indicates that DTP shots do not cause SIDS.

PERSONAL OR FAMILY HISTORY OF CONVULSIONS:

Children who have had a convulsion and children who have a brother, sister, or parent who has ever had a convulsion are more likely to have a convulsion after receiving DTP vaccine. The advisory committees recommend that because of the overall risk of pertussis disease and the fact that the risk of convulsions is still very low: (1) children with a personal history of a convulsion and whose nervous system problem is stable may receive DTP vaccine; and (2) children with a family history of convulsions should receive DTP vaccine. However, you should tell the person who is to give the immunization about such a history and discuss the possibility of using an anti-fever medicine.

PREGNANCY:

Babies born under unsanitary conditions to unimmunized women have a risk of developing tetanus during the newborn period (neonatal tetanus). Neonatal tetanus can be prevented by immunization of adult women. Women who have not received Td earlier and who are thought to be at risk of delivering their babies under unsanitary conditions should be immunized during pregnancy.

Td vaccine is not known to cause special problems for pregnant women or their unborn babies. Doctors usually do not recommend giving any drugs or vaccines to pregnant women unless there is a specific need. Pregnant women who need Td vaccine should receive it, preferably during the second and/or third trimesters.

WARNING—SOME PERSONS SHOULD *NOT* TAKE THESE VACCINES WITHOUT CHECKING WITH A DOCTOR:

- Anyone who is sick right now with something more serious than a cold.
- Anyone who has had a convulsion or is suspected to have a problem of the nervous system.
- Anyone who has had a serious reaction to DTP, DT, or Td shots before, such as: an allergic reaction to any vaccine component; a temperature of 105°F or greater; an episode of limpness and paleness; prolonged continuous crying; an unusual, high-pitched cry; or a convulsion or other more severe problem of the brain.
- Anyone taking a drug or undergoing a treatment that lowers the body's resistance to infection, such as: cortisone, prednisone, certain anticancer drugs, or irradiation.
- Anyone who has had a serious reaction to a product containing thimerosal, a mercurial antiseptic.

QUESTIONS:

If you have any questions about diphtheria, tetanus, or pertussis or DTP, DT, or Td immunization, please ask us now or call your doctor or health department before you sign this form.

REACTIONS:

If the person who received the vaccine develops a temperature of 105°F or greater, continuous crying lasting 3 or more hours, an unusual high-pitched cry, a convulsion, an episode of limpness and paleness, or a severe problem of the brain, the person should be seen promptly by a doctor.

If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic in the 4 weeks after immunization, please report it to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

I have read or have had explained to me the information on this form about diphtheria, tetanus, and pertussis and DTP, DT and Td vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of the DTP, DT, and Td vaccine and request that the vaccine checked below be given to me or to the person named below for whom I am authorized to make this request.

Vaccine to be given ☐ **DTP** ☐ **DT** ☐ **Td** **DTP 1/1/88**

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)				
Last Name	First Name	MI	Birthdate	Age
Address				
City	County		State	Zip
X Signature of person to receive vaccine or person authorized to make the request.				Date

FOR CLINIC USE
Clinic Ident.
Date Vaccinated
Manuf. and Lot No.
Site of injection

FOR DATA PROCESSING USE ONLY (OPTIONAL)

VACCINE HISTORY: PLACE CHECK ☐ IN BOX IF HISTORY PREVIOUSLY SUBMITTED

DTP:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	MEASLES:	m/d/yr	MUMPS:	m/d/yr
POLIO:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	RUBELLA:	m/d/yr	HAEMOPHILUS b:	m/d/yr

IMPORTANT INFORMATION ABOUT MEASLES, MUMPS, AND RUBELLA AND MEASLES, MUMPS, AND RUBELLA VACCINES

Please Read This Carefully

MMR 1/1/88

WHAT IS MEASLES?

Measles is the most serious of the common childhood diseases. Usually it causes a rash, high fever, cough, runny nose, and watery eyes lasting 1 to 2 weeks. Sometimes it is more serious. It causes an ear infection or pneumonia in nearly 1 out of 10 children who get it. Approximately 1 child out of every 1,000 who get measles has an inflammation of the brain (encephalitis). This can lead to convulsions, deafness, or mental retardation. About 2 children in every 10,000 who get measles die from it. Measles can also cause a pregnant woman to have a miscarriage or give birth to a premature baby.

Before measles vaccine shots were available, there were hundreds of thousands of cases and hundreds of deaths each year. Nearly all children got measles by the time they were 15. Now, wide use of measles vaccine has nearly eliminated measles from the United States. However, if children are not vaccinated they have a high risk of getting measles, either now or later in life.

WHAT IS MUMPS?

Mumps is a common disease of children. Usually it causes fever, headache, and inflammation of the salivary glands, which causes the cheeks to swell. Sometimes it is more serious. It causes a mild inflammation of the coverings of the brain and spinal cord (meningitis) in about 1 child in every 10 who get it. More rarely, it can cause inflammation of the brain (encephalitis) which usually goes away without leaving permanent damage. Mumps can also cause deafness. About 1 out of every 4 adolescent or adult men who get mumps develops painful inflammation and swelling of the testicles. While this condition usually goes away, on rare occasions it may cause sterility. Before mumps vaccine shots were available, there were more than 150,000 cases each year. Now, because of the wide use of mumps vaccine, the number of cases of mumps is much lower. However, if children are not vaccinated, they have a high risk of getting mumps.

WHAT IS RUBELLA?

Rubella is also called German measles. It is a common disease of children and may also affect adults. Usually it is very mild and causes a slight fever, rash, and swelling of glands in the neck. The sickness lasts about 3 days. Sometimes, especially in adult women, there may be swelling and aching of the joints for a week or two. Very rarely, rubella can cause inflammation of the brain (encephalitis) or cause a temporary bleeding disorder (purpura).

The most serious problem with rubella is that if a pregnant woman gets this disease, there is a good change that she may have a miscarriage or that the baby will be born crippled, blind, or with other defects. The last big rubella epidemic in the United States was in 1964. Because of that epidemic, about 20,000 children were born with serious problems such as heart defects, deafness, blindness, or mental retardation because their mothers had rubella during the pregnancy.

Before rubella vaccine shots were available, rubella was so common that most children got the disease by the time they were 15. Now, because of the wide use of rubella vaccine, the number of cases of rubella is much lower. However, if children are not immunized, they have a high risk of getting rubella and possibly exposing a pregnant women to the disease. If an unimmunized woman later becomes pregnant and catches rubella, she may have a defective baby. Since rubella is a mild illness, many women of childbearing age do not recall if they had rubella as a child. A simple blood test can show whether a person is immune to rubella or is not protected against the disease. Overall, about 1 in 5 women of childbearing age is not protected against rubella.

MEASLES, MUMPS, AND RUBELLA VACCINES:

The vaccines are given by injection and are very effective. Ninety percent or more of people who get the shot will have protection, probably for life. Since protection is not as likely to occur if the vaccines are given very early in life, these vaccines should be given to children after their first birthday; measles-vaccine should be given at 15 months of age or older. Measles, mumps, and rubella vaccines can be given one at a time or in a combined vaccine

(PLEASE READ OTHER SIDE)

DHMH 2102

(measles-rubella [MR], measles-mumps-rubella [MMR] by a single shot. If they are given in combined vaccine, they should be given at 15 months of age or older.

Experts recommend that adolescents and adults—especially women of childbearing age—who are not known to be immune to rubella should receive rubella vaccine (or MMR if they might also be susceptible to measles or mumps). Women should not receive the shot if they are pregnant or might become pregnant within 3 months. There is no known risk in being immunized against any or all three of these diseases if you are already immune to any of them.

POSSIBLE SIDE EFFECTS FROM THE VACCINES:

About 1 out of every 5 children will get a rash or slight fever lasting for a few days, 1 or 2 weeks after getting measles vaccine. Occasionally there is mild swelling of the salivary glands after mumps vaccination.

About 1 out of every 7 children who get rubella vaccine will get a rash or some swelling of the glands of the neck 1 or 2 weeks after the shot. About 1 out of every 20 children who get rubella vaccine will have some aching or swelling of the joints. This may happen anywhere from 1-3 weeks after the shot. It usually lasts only 2 or 3 days. Adults are more likely to have these problems with their joints— as many as 4 in 10 may have them. True arthritis with swelling of the joints is generally seen in less than two percent of adults receiving rubella vaccine. If pain or swelling of the joints occurs, it rarely lasts for more than a few days and rarely returns. Other temporary side effects, such as pain, numbness, or tingling in the hands and feet have also occurred but are very uncommon.

Although experts are not sure, it seems that *very rarely* children who get these vaccines may have a more serious reaction, such as inflammation of the brain (encephalitis), convulsions with fever, or nerve deafness.

With any vaccine or drug, there is a possibility that allergic or other more serious reactions or even death could occur.

PERSONAL OR FAMILY HISTORY OF CONVULSIONS:

Children who have had a convulsion and children who have a brother, sister, or parent who has ever had a convulsion are more likely to have a convulsion after receiving measles vaccine. Advisory committees of the United States Public Health Service and the American Academy of Pediatrics recommend that because of the overall risk of measles disease and the fact that the risk of convulsions is still very low, children with a personal history of a convulsion and children with a family history of convulsions should receive measles vaccine. However, you should tell the person who is to give the immunization about such a history and discuss the possibility of using an anti-fever medicine.

WARNING—SOME PERSONS SHOULD NOT TAKE THESE VACCINES WITHOUT CHECKING WITH A DOCTOR:

- Anyone who is sick right now with something more serious than a cold.
- Anyone who had an allergic reaction to eating eggs so serious that it required medical treatment (does not apply to rubella vaccine).
- Anyone with cancer, leukemia, or lymphoma.
- Anyone with a disease that lowers the body's resistance to infection.
- Anyone taking a drug that lowers the body's resistance to infection (such as cortisone, prednisone or certain anticancer drugs).
- Anyone who has received gamma globulin (immune globulin) within the preceding 3 months.
- Anyone who had an allergic reaction to an antibiotic called neomycin so serious that it required medical treatment.

PREGNANCY:

Measles, mumps, and rubella vaccines are not known to cause special problems for pregnant women or their unborn babies. However, doctors usually avoid giving any drugs or vaccines to pregnant women unless there is a specific need. To be safe, pregnant women should not get these vaccines. A woman who gets any of these vaccines should wait 3 months before getting pregnant.

Immunizing a child whose mother is pregnant is not dangerous to the pregnancy.

QUESTIONS:

If you have any questions about measles, mumps, or rubella immunization, please ask us now or call your doctor or health department before you sign this form.

REACTIONS:

If the person who received the vaccine has a convulsion or other serious reaction the person should be seen promptly by a doctor.

If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic in the 4 weeks after immunization, please report it to:

PLEASE KEEP THIS PART OF THE INFORMATION SHEET FOR YOUR RECORDS

I have read or have had explained to me the information on this form about measles, mumps, and rubella and measles, mumps, and rubella vaccine. I have had a chance to ask questions which were answered to my satisfaction. I believe I understand the benefits and risks of measles, mumps, and rubella vaccine and request that the vaccine checked below be given to me or to the person named below for whom I am authorized to make this request.

Vaccine to be given: ☐ Measles ☐ Mumps
☐ Rubella ☐ Measles-Rubella ☐ Measles-Mumps-Rubella

MMR 1/1/88

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (Please Print)				
Last Name	First Name	MI	Birthdate	Age
Address				
City	County		State	Zip
x Signature of person to receive vaccine or person authorized to make the request.				Date

FOR CLINIC USE
Clinic Ident.
Date Vaccinated
Manuf. and Lot No.
Site of injection

FOR DATA PROCESSING USE ONLY (OPTIONAL)

VACCINE HISTORY	PLACE CHECK ☐ IN BOX IF HISTORY PREVIOUSLY SUBMITTED								
DTP:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	MEASLES: m/d/yr		MUMPS: m/d/yr	
POLIO:	m/d/yr	m/d/yr	m/d/yr	m/d/yr	m/d/yr	RUBELLA: m/d/yr		HAEMOPHILUS b: m/d/yr	

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"The more than one company agent."

Remembrances

Reading Margaret Smith's beautiful article* in the July 1989 *MMJ* brought back many fond memories, especially when she discussed the problems of infectious ("contagious") diseases during the 1920s, 30s, and 40s together with the origin and early beginnings of Sydenham Hospital for Contagious Diseases.

I graduated University of Maryland Medical School in 1925, and after my stint in University Hospital, I served a residency in Sydenham Hospital in 1927-1928. Dr. Myron G. Tull was superintendent of the hospital and also chief medical officer. I served and trained under him. I remember him as a very tall (6 feet 2 inches), lanky individual compared to my 5 feet 3 inches, a warm, compassionate, and a very capable and knowledgeable physician. Students from both Hopkins and Maryland were sent over as part of their teaching and training. As Smith relates, the clinical laboratory was up to date for that time. I performed some tests, such as CBCs, urines, and throat cultures, and assisted at autopsies.

Sydenham Hospital was a unit of the Baltimore City Health Department, and I believe Dr. Huntington Williams was Health Commissioner at that time. The hospital possessed its own ambulance to bring in critically contagious patients. I recall riding in our ambulance one day to the outpatient clinic of the old University Hospital, which was situated at the southwest corner of Lombard and Greene Streets diagonally across from Davidge Hall. (The old hospital was torn down in 1970 when the new hospital addition was built on Redwood-Baltimore-Greene Streets.) We removed a child from the clinic suffering from severe stridor, almost choking from a dipthteritic membrane occluding the posterior pharynx and larynx. On the way back to Sydenham in the ambulance, I intubated the child using an O'Dwyer clamp and tube. This clamp was shaped like a surgical scissors, which grabbed an O'-Dwyer tube (a black cylindrical plastic tube about one and one half inches in length) that slipped into the trachea. Thanks to G-d and O'Dwyer, the child immediately began to breathe with ease. At the hospital he received oxygen and an injection of diphtheria antitoxin. No antibiotics were in existence those days. Occasionally, a child "coughed his tube" and had to be re-intubated.

I vividly remember certain incidents that occurred during my tenure at Sydenham. One night after midnight, a child coughed up its tube and began to show immediate severe stridor. I was asleep in my room in the Administration Building, which connected to the hospital proper by an underground passageway. I ran in my pajamas to the hospital and reintubated the child.

I also recall a large cargo ship from India was anchored in Baltimore Harbor. They reported a very sick seaman aboard was suspected of having smallpox! A call from the Health Department to Sydenham requested a physician. I volunteered. A Baltimore City automobile was sent for me, and I was driven down to the Harbor and placed on a small motorboat that took me out to the large ship. I remember climbing up a rope ladder into the ship. I was escorted down to the hold of the vessel. The sick seaman presented a typical case of chickenpox (varicella), not smallpox (variola). We all might remember from our medical school days that the various lesions of smallpox all come out separately over the body, face, and flexor surface of the forearms, while with varicella one can observe all the lesions at one time and the lesions are not seen on the flexor surfaces. I relieved the Health Department of considerable anxiety.

I vividly remember the following incident: At that time the Mayor of Baltimore was Howard Jackson. He had slipped and severely sprained his ankle. He had been wanting to tour and inspect the nearly new Sydenham Hospital anyhow. He informed us that he was coming out the Hospital and at the same time could we examine and treat his sprained ankle. His Honor arrived with a considerable entourage. I had the signal honor to X-ray and splint the royal ankle. "Them were the days!"

I recall two cases with dire complications. One Saturday morning, after discharge rounds, a child who had recovered from diphtheria was ready for discharge. While awaiting to be discharged, he suffered a sudden death due to a complete cardiac arrest from the effects of diphtheria toxin, which was known to be cardiotoxic. It is a neurotoxic toxin similar to tetanus toxin. The second case was a child very ill from pertussis (whooping-cough, a very apt name). This poor child was suffering from persistent, protracted uncontrollable coughing followed by the typical whoop and usually vomiting. During one such episode the child suffered a cerebrovascular accident, evidently from bursting a small blood vessel in the brain. The child presented a picture of stroke almost similar to that in an adult.

Today, the old Sydenham Hospital has been replaced by Montebello Hospital, which is the rehabilitation facility associated with the University Hospital and also with the R Adams Cowley Shock Trauma Hospital.

SAMUEL SHIPLEY GLICK MD
Professor Emeritus, Department of Pediatrics
University of Maryland School of Medicine ■

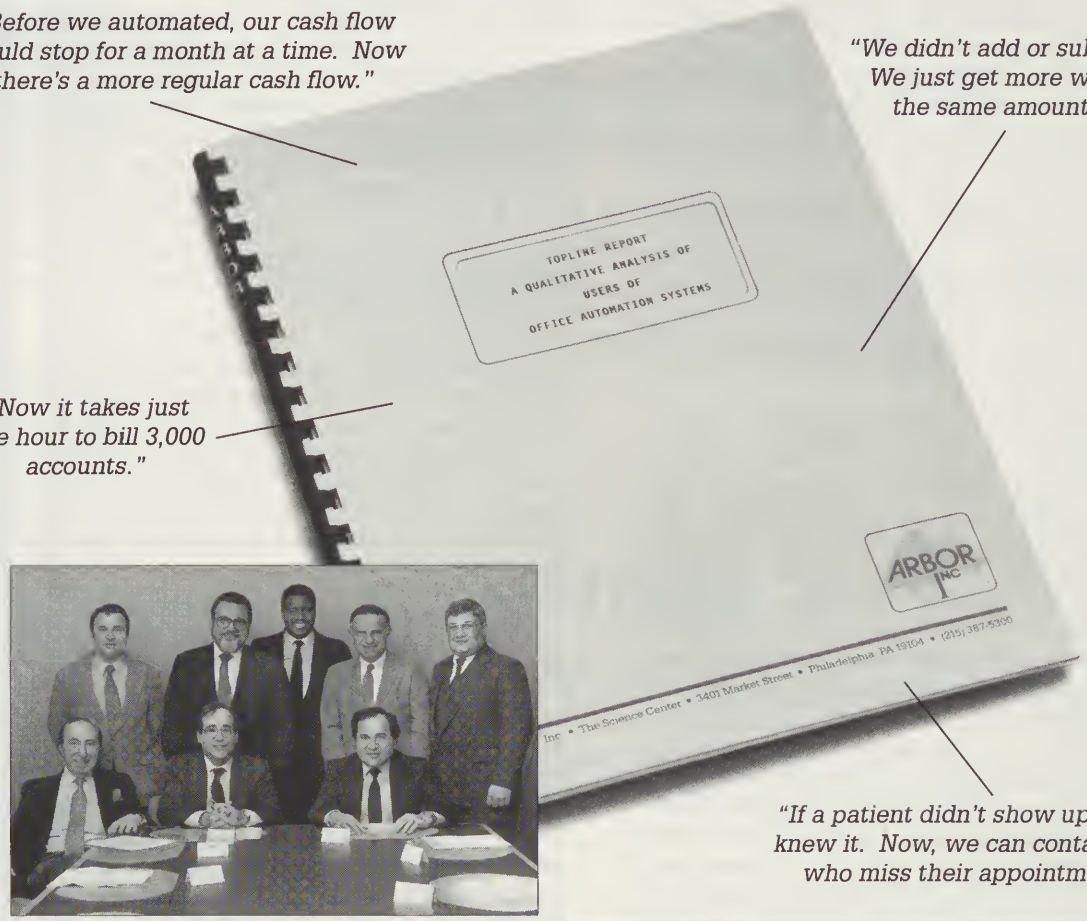
* The Changing Scene in Health Care Delivery. *MMJ* 1989;6:563-67.

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Fugitive Manuscripts

The cryptic note "old letters from Library shelves, Dr. Krause please check and destroy or suggest disposition" penned upon a heavy stuffed legal sized manila envelope piqued my curiosity. Located under a group of library committee reports from the 1950s and 60s this was the type of find that makes being a rare book librarian or archivist exciting. What could these "old letters" be? What would they tell us about the Faculty's history and the men and women who made it?

I anxiously, but carefully, opened the envelope to find a variety of authors and dates, some contemporary with the reports in the envelope and others dating back to the early days of the Faculty. Some were routine correspondence: a thank-you note from Marcia Noyes for additional copies of the 1888 *Index Medicus* or a postcard indicating a physician was not going to attend a Faculty meeting; others, a bit more interesting, make up the following sampling.

■ ■ ■

Committing a family member to an asylum in the nineteenth century was, as it is today, a difficult decision. It wasn't uncommon to invite several area physicians to review a particular case before a decision was made. It would seem from the letter below that was the case here. Preston in his comments refers to himself as one of the patient's physicians, suggesting that others also were in attendance.

> *1840*
> *I do hereby certify that I attended William H. McCloskey(?) as one of his Physicians & that there was no doubt upon the minds of any of his medical advisors as to his Insanity - at time he was a complete madman - this case* [a section of the letter is missing here] *easily ascertained by talking a few minutes with him upon the subject of Religion.*
>
> *JACOB A. PRESTON MD*

Dr. Preston's account leaves us wondering whether his patient was truly "mad" or just a bit tense regarding religion and what about "religion" Preston and his patient discussed.

■ ■ ■

Very few of the early minute books and treasurer's reports of the Faculty have survived to the present day. So finding a complete report with notes in this envelope is of immense benefit to the Faculty.

> *The Treasurer of the Medical and Chirurgical Faculty of Maryland submits his act.* [account] *Book and his annual report, showing the receipts and expenditures of the faculty for the past year; by which it will be seen that since meeting in June last his receipts have amounted to $295.40 and the disbursements for the same period $295.40 leaving a balance due the Library from the appropriation of last year for the sum of $225.50.*
>
> *He asks for the usual committee to access his act. - all of which is faithfully submitted.*
>
> *Joshua I. Cohen MD*
> *Treasurer*

Cohen's notes and figures would lead us to believe that the Faculty was barely breaking even during the early years. The letter suggests that an effort to make up an earlier shortfall was made by borrowing against the Library accounts but that the amount was still owed at the close of 1843.

■ ■ ■

In the early 1880s Editor and Co-Founder of the *Maryland Medical Journal* Eugene Cordell must have been doing some soul searching regarding the status of the *Journal*. Like so many projects a good deal of support was given to the idea of the *Journal* but when the time came to actually produce it, much of the work fell upon Cordell. A letter from Robert Bartholow, of Pennsylvania, seems an attempt to cheer Cordell on:

> *I am so thoroughly convinced of your faithfulness and honest work in your attempt to give the profession of Baltimore a suitable medical organ, that I feel bound to help you in my humble way. I say this, my dear Doctor, not in the ordinary conventional manner - for I am not given to empty compliments - but because I really feel it.*

A few years later and only a short time prior to his being elected President of the Faculty, Cordell must have still been feeling some concern about his *Journal* efforts and his role in the Faculty as well, or perhaps he was only seeking a career change. Whatever the motivation, in February 1899 Cordell sent a letter to Washington seeking an appointment in the Foreign Consular Service. He promptly received a form letter in return telling him that appointments were strictly

"political," a particularly amusing response from the Senate in light of recent concerns regarding the quality and method of appointments to the foreign service.

Replying to your letter of yesterday. I have to inform you that appointments in the consular service are made by the President. It is necessary to file an application with the Secretary of State and pass a certain kind of an examination; but nothing but political influence in accord with the Administration will obtain you an appointment.

■ ■ ■

In 1895 the Faculty's president, J. Edwin Michael, died after only a few short months in office. A special meeting was held to honor Michael's medical achievements and many Faculty members spoke. One of the more eloquent acknowledgments came from Dr. John H. Jamar who was unable to attend but whose letter was stashed in this batch of "fugitive manuscripts."

My Dear Doctor,

I regret I shall not be able to be with you tomorrow at your meeting to give expression to our sense of loss at the falling off of one of the bright lights in the medical firmament - I had the pleasure of knowing our generous brother and had learned to look upon him as a genial friend and a much beloved member of the fraternity - and I can scarcely realize the fact that he has been removed from us before he had hardly obtained the wisdom of life. The Faculty has lost one of its faithful servants and the profession one of its most active and promising members.

I am faithfully yours,
John H. Jamar

■ ■ ■

As indicated a great number of the letters were short notes of one type or another. One of my favorites, in terms of brevity and content, is a cryptic letter typed (with a signature) in 1906 from the office of Dr. William Sydney Thayer. It reads simply,

Dear Magruder:...
Love has come into the fold. Here's to Love!
Yours Sincerely,
W.S. Thayer

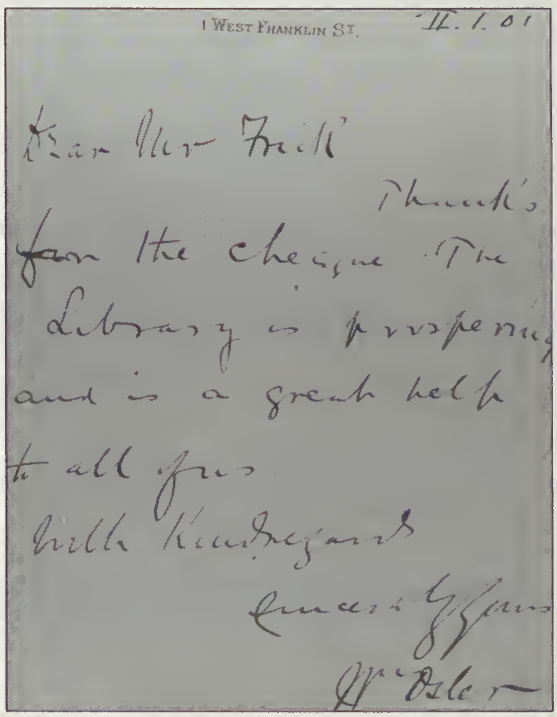
■ ■ ■

Last, but by no means least, is a short thank you note from Sir William Osler to Frank Frick for his continued support of the "Frick Library." While unremarkable in terms of information this note serves to remind us of degree to which Osler was active in promoting the Faculty Library and of the great stock he set by it. In addition, the note is graced by a very clear signature.

Dear Mr. Frick

Thanks for the checque. The Library is prospering well and is a great help to all of us.
With kind regards,

Sincerely Yours
Wm. Osler



■ ■ ■

Historical information about the Faculty and it's members continues to turn up as the business archives and personal papers - long neglected - are sorted and made available to researchers. With time, and the Faculty's continued support of the Library's efforts, I hope to bring more of this type of material to the membership's attention.

BILL SLEEMAN
Med Chi Archivist ■

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Executive Director's Newsletter

December 1989

Medicare Elective Surgery Provisions

Participating physicians are reminded that if they are performing elective survey for which they will charge $500 or more and they **do not intend to accept Medicare Assignment**, the patient must be given a written disclosure of the physician's estimated actual charge. The difference between the physician's charge and the Medicare charge represents the patient's liability. Physicians who fall into this group are being randomly sampled, and copies of such correspondence to the patient are being requested by Medicare. **Failure to produce such correspondence will result in a beneficiary inquiry.** For more information or a sample letter for this purpose, contact Betty J. Stewart in the Utilization Review Department for BC\BS at 1946 Greenspring Drive, Timonium, MD 21093.

New Med Chi Physicians' Credentialing-Service

Med Chi recently established a centralized physicians' credentialing records program. The Faculty will serve as a clearinghouse for documents required for physician hospital appointment under Maryland's licensure law and by JCAHO standards. Subscribing physicians' files will be verified automatically and updated to support Maryland requirements for physician hospital reappointment every two years. Participating hospitals will receive a certified copy of each staff physician's file so that the medical staff may review the data before making a recommendation for appointment or reappointment. For more information regarding the physician's credentialing service, contact Joseph Jensen, Director of Med Chi Support Services, at 1-800-492-1056 or 301- 539-0872 in Baltimore.

Med Chi Directory Disclaimer

Specialty designations listed in the *Membership Directory* are reported by individual physician members who are responsible for their accuracy. The listing of a specialty designation by a physician in the *Membership Directory* does not mean that the State Physician Quality Assurance Board or individual Specialty Certification Boards have given approval or endorsement of the particular physician's specialty designation.

Membership Directory Corrections

Med Chi physicians are advised to make note of a few corrections in the 1989-1990 Membership Directory. The American Psychiatric Association (516) was omitted from the Specialty Codes list. The American Board of Internal Medicine (020) was omitted from the Specialty Board list. The following physicians were omitted from the index of names:
Zucker, Jonathan E., Prince George's County; Zullo, Leonard M., Baltimore County; Zuniga, Luis M., Howard County; Zurowski, Wayne K., Calvert County.

Medical Assistance Providers

The Maryland Medical Assistance is requesting that physicians sign a standard service agreement with the program. The agreement is automatically renewable thereby eliminating the annual update of physician enrollment status. It also precludes the previous requirement that a physician must sign each claim submitted to the Medical Assistance Program. Physicians signing the service agreement maintain the freedom of choice to render services to Medical Assistance beneficiaries. This is in keeping with Med Chi's support of legislation to reduce Medicaid red tape and to encourage private practicing physician to participate in the Medical Assistance Program.

1990 Annual Meeting

Med Chi's 1990 Annual Meeting will be held on May 9-11 at the Turf Valley Hotel and Country Club in Ellicott City, MD. "The 1990s: What Can We Expect?" is the theme for this meeting that will feature Lonnie R. Bristow MD, Member of the AMA Board of Trustees as the plenary speaker.

New Peer Review Manual

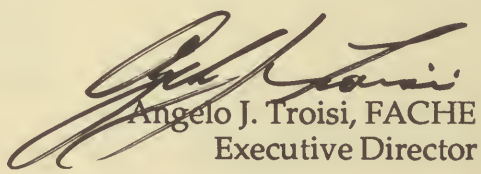
The Med Chi Council approved a new peer review manual on October 25, 1989. This manual, prepared through the cooperation of Med Chi's Peer Review Committee, Component Societies, and the Board of Physician Quality Assurance (BPQA) and has become a national model for use in other states. Med Chi thanks Christopher Harvey MD, Chairman of the Peer Review Management Committee; Emidio Bianco MD, former Peer Review Committee Chairman; Peter Dans MD, of BPQA; and all physician members, component societies who helped make this manual possible.

New Faculty Position Papers

On October 25, 1989 Med Chi Council adopted a new Faculty Position on Cholesterol Testing and also amended the Faculty Position on AIDS. These papers will appear in the legislative issue of the *Maryland Medical Journal* in January. For a copy of the Faculty's Position Papers contact Med Chi's Communications Department at 1-800-492-1056 or 301-539-0872 in Baltimore.

New Staff Attorney

Med Chi's new staff attorney, Greg Hall was recently hired by Rifkin, Evans, Silver, and Lamone to provide on-site legal services for Med Chi. Mr. Hall is a graduate of the University of Arkansas School of law and obtained a master's degree in health law from Loyola University of Chicago School of Law, a degree possessed by only about 25 attorneys in the country. In addition to being a licensed pharmacist, Mr. Hall is knowledgeable in areas such as Medicare and Medicaid requirements, state medical record requirements, and laws governing licensure and operation of health facilities.



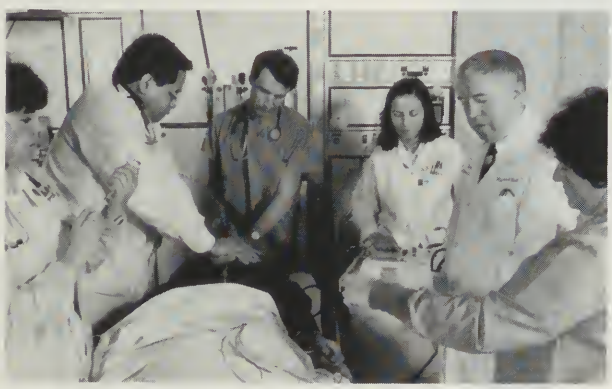
Angelo J. Troisi, FACHE
Executive Director

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Prevalence of Risk Behaviors and HIV Infection in Maryland STD Clinics

Diane L. Matuszak MD, MPH; Indira Kotval MPH; Rekha Garg MD, MS; Jagdish Patel PhD, Ebenezer Israel MD, MPH; and David Glasser MD, MPH

Authors Matuszak, Kotval, Patel, and Israel are with the Maryland Department of Health and Mental Hygiene; Dr. Garg at the time of the study was at the University of Maryland School of Medicine, Department of Epidemiology and Preventive Medicine; and Dr. Glasser is with the Baltimore City Health Department. **Reprints:** *Diane L. Matuszak MD, Chief, Center for Comunity Epidemiology, DHMH, 201 W. Preston St., Baltimore, MD 21201.*

Persons who are receiving evaluation and treatment for sexually transmitted diseases are at moderately increased risk for acquiring HIV infections. The scope of STD clinic services should be broadened to include counseling, education, and referral services for health needs related to risk of HIV infection.

Since the licensure of test kits to detect antibody to human immunodeficiency virus (HIV) in 1985, information has been rapidly accumulating on the prevalence of HIV antibodies in persons known to be at high risk of acquired immune deficiency syndrome (AIDS) and HIV infection.[1] Two-stage serological testing with an enzyme linked immunosorbent assay (ELISA) followed by Western blot testing of repeatedly positive sera has proved to be highly sensitive and specific[2] and has gained wide acceptance.

Infection rates have been reported for groups of homosexual and bisexual men,[3,4] intravenous drug abusers,[5,6,7] hemophiliacs,[8] and others who perceive themselves to be at high risk such as attendees at public counseling and testing sites. Reports also have been published on HIV seroprevalence rates in large population groups at very low risk due to prior exclusion of persons with high-risk behavior patterns such as blood donors[9] and military recruits.[10,11]

Sexual transmission of HIV, from male to male,[12] male to female,[13,14] and female to male,[14-16] has been documented. In Africa and Haiti, heterosexual transmission appears to be the predominant mode of transmission.[17,18]

Sexually transmitted diseases (STD) causing ulcerations or breaks in the epithelium have been implicated in facilitating sexual transmission.[19-22]

Maryland, both in Baltimore City and in other jurisdictions, has had high prevalence rates for gonococcal infections and for early syphilis in recent years. In 1987, Maryland ranked seventh among states, and Baltimore ranked fourth among major cities for gonococcal infections with rates per 100,000 of 477.1 and 1,643.7 respectively. Maryland's rate for primary and secondary syphilis, 11.0 per 100,000 placed it at sixteenth, and Baltimore's rate of 47.0 per 100,000[23] placed it in eleventh position in the syphilis rankings. By February 1987, more than 500 cases of AIDS had been reported in

Maryland with more than 40 percent of these cases coming from Baltimore City.[24]

In February 1987, a blind seroprevalence/ anonymous risk factor questionnaire study was undertaken in Maryland with a primary objective of determining the prevalence of antibodies to HIV in a population at moderately increased risk.

Methods

The basic methodolgy of linking anonymous questionnaires and blinded serologic specimens was developed by the Maryland Department of Health and Mental Hygiene (MDHMH) and the Baltimore City Health Department and was utilized for concurrent serosurveys by these agencies. The Baltimore City Health Department serosurvey results have been reported.[25]

The STD clinics in the local health departments of each jurisdiction in Maryland (23 counties and Baltimore City) were invited to participate in a blind seroprevalence survey for antibodies to HIV during the period March to September 1987. Each clinic was asked to participate for a three-month period. The starting dates were staggered to more evenly distribute the volume of tests over the range of the survey's duration. Only one jurisdiction, a rural county that had been expected to contribute less than 4 percent of the sample, declined to participate.

For purposes of analysis, Maryland was divided into six regions. The Eastern Shore, Western Maryland, and Southern Maryland are largely rural and more geographically distant from urban centers. The areas suburban to Baltimore and Washington, DC geographically cover the central portion of the state. Baltimore City lies in the center of state at the head of the Chesapeake Bay.

An estimated number of individuals seeking services at each clinic during a three-month period was calculated using data supplied on clinic services the previous year. Each clinic was provided with a three-month supply of a specially printed laboratory request form for serologic tests for syphilis (STS). This STS request form consisted of 4 parts: (1) an anonymous questionnaire, (2) a self-sealing envelope, (3) a copy of the standard STS request form, and (4) a blind copy of the standard STS form containing no patient identifying information.

An STS is routinely drawn at each clinic visit unless the patient has had this test done within the previous 30 days or refuses testing. A 12 question self-administered questionnaire was developed. The reading level of the questionnaire was adjusted to fourth to sixth grade. The comprehensibility of the questionnaire was field tested prior to use in this survey. Each STD clinic attendee who had a blood specimen drawn for STS was asked to voluntarily and anonymously complete a questionnaire, seal it in the envelope, and deposit it in a locked "mail" box. Attendees were asked to follow this procedure even if they did not wish to answer any of the questions to assure that there would be a questionnaire for each attendee regardless of response rate.

A two-step blinding procedure was employed: a unique code number was placed on each questionnaire and the corresponding blind copy of the STS request form using either a dot matrix or invisible ink. In this manner, anonymous responses were linked to the blind copy of the STS request.

The blind copy of the STS request was linked to a blinded aliquot of serum in the following manner. The regional and central serology laboratories were provided with matched pairs of prenumbered labels. The aliquots to be sent for HIV antibody testing were submitted to the central retrovirology laboratory labeled only with a specimen code number. The matching label was placed on the top of the blind copy of the STS request form, which was sent directly to the survey coordinator at MDHMH. Anonymous questionnaires were collected at the STD clinics and forwarded to the survey coordinator in their original sealed envelopes. Data from the questionnaires, the STS request forms, and HIV antibody test results were entered as three separate database files and then merged into a single master file.

The syphilis serology laboratories in all regional laboratories and the central laboratory received instructions in the sampling procedure and the sampling fraction (one in three specimens in urban/suburban areas; one in two specimens in rural areas where clinic attendance is sparser).

The Baltimore City portion of the Maryland survey represents a one in three sample of the first 3,000 STD clinic attendees in the population on which data were previously reported.[25] These duplicate aliquots of serum were independently tested in the retrovirology laboratory, MDHMH, to assure that the sensitivity and specificity of HIV antibody tests were identical for the Baltimore City tests reported here and those from the remainder of the state.

During the same period over which the serosurvey was conducted, a separate knowledge, attitude, and behavior (KAB) interview survey was conducted at the same sites with a sample size at each site targeted at 10 percent of the serosurvey sample size. Specially trained interveiwers approached attendees while they were waiting to be seen and invited them to volunteer to be interviewed. The purpose of the interview and the assurance of the anonymity of responses were explained to prospective volunteers. Each interview lasted 30 to 45 minutes. Interviews were not linked to anonymous self-completed questionnaires, but interviewees were drawn from the same clinic population. A total of 321 STD clinic attendees were interviewed.

During the survey period, HIV antibody testing and counseling was available to all STD clinic attendees in the local jurisdictions. Written policies in effect at the time of the serosurvey required that all STD patients receive information about AIDS and prevention of HIV transmission, and be offered voluntary HIV antibody testing.

The instruments and protocols for the serosurvey and the KAB interviews were approved by the MDHMH Institutional Review Board.

Laboratory methods A commercially available ELISA kit manufactured by Electro Nucleonics, Inc. (Columbia, MD) was used to screen all sera for antibodies to HIV. All sera were screened in duplicate with the ELISA test. Specimens reactive on one or both tests were then tested by the Western blot method using reagents manufactured by Protatek International, Inc. (St. Paul, MN). Only specimens reactive on both ELISA tests and with viral protein bands at both p24 and gp41 were considered positive.[26]

The rapid plasma reagin (RPR) card test was used as the screening serological test for syphilis. Positive RPR results were confirmed using the fluorescent treponemal antibody absorption test.

Statistical analysis Demographic characteristics and test results were statistically compared using the Statistical Analysis System software package (Cary, NC) on an IBM 4341 Mainframe Computer. Chi-square analysis and Fisher's exact test were used to compare risk behaviors, demographic information, and serological test results between groups. Multiple logistic regression was used to identify demographic, behavioral, historical, and laboratory variables having a significant independent association with the pre-sence of antibodies to HIV.

Results

A total of 8,445 questionnaires were returned from STD clinics. HIV antibody testing was performed on a disproportional stratified systematic sample of 2,887 (34.2 percent) sera. Of the 2,887 linked questionnaires, no questions were completed on 683 (23.6 percent). Of the remaining 2,204, 269 (12.2 percent) had at least one question unanswered and 1,935 (87.8 percent) had all items completed. The overall seroprevalence for those with complete questionnaires (1,935) was 46 confirmed positives for a rate of 2.4 percent. Ten of 269 (3.7 percent) specimens with incomplete questionnaires were seropositive, and 10/683 (1.5 percent) of those with blank questionnaires were seropositive. These differences were not statistically significant ($p = 0.20$ and $p = 0.16$ respectively).

Table 1 presents the comparison of the demographic and risk- behavior information from (a) the questionnaires associated with the specimens included in the serosurvey, (b) the remaining questionnaires associated with specimens not selected for HIV antibody testing, and (c) the KAB interviews.

The only statistically significant differences between the serosurvey questionnaires and the KAB interviews were that men were slightly underrepresented in the interview group and that the interviews were more successful in eliciting a history of bisexual behavior.

The serosurvey questionnaires corresponded well to the nonserosurvey questionnaires. The only statistically significant difference was in the percent of the population that was nonwhite. This result could be anticipated due to the one-in-three sampling fraction used for Baltimore City where STD clinic attendees were overwhelmingly nonwhite (95 percent compared to 63 percent elsewhere in Maryland). When examined on a region-by-region basis, the only region with a statistically significant underrepresentation of nonwhites was the suburban Washington, DC area (70.7 percent versus 79.7 percent, $p < 0.01$).

Table 1. Demographic and Risk Behavior Comparisons

Demographic Characteristic	Serosurvey Questionnaires	Nonserosurvey Questionnaires	KAB Interviews
Analyzable number *	2,204	4,917	321
Age			
Mean (years)	24.6	24.8	24.4
Range	(12-74)	(12-76)	(14-64)
Male	62.7%	62.1%	56.4%†
Nonwhite	75.4%	80.2%‡	73.5%
Reporting parenteral drug use since 1978	6.8%	5.9%	4.7%
Number males	1,381	3,055	181
Bisexual	13.7%	3.0%	6.6%†
Homosexual	2.3%	1.7%	2.2%
Not answering questions on male-to-male sex	10.2%	9.5%	---

* Includes all questionnaires for which these particular items were complete.

† The difference between the serosurvey and KAB interviews is statistically significant, $p < 0.03$.

‡ The difference between the serosurvey and nonserosurvey questionnaires is statistically significant, $p < 0.01$.

Univariate Analysis

Table 2 details the results of univariate analysis for the entire serosurvey population. Men were much more likely to be seropositive than were women. Although the overall seropositivity rate in nonwhites was nearly twice as high as the rate for whites (95 percent CI 0.8, 4.2), this difference was not statistically significant.

For both sexes, a history of parenteral drug use in the respondent or in a sex partner of the respondent was associated with an increased risk of HIV infection. There was a strong association with serologic and/or historic evidence of syphilis. The only STD showing no statistically significant association with serologic evidence of HIV infection in this population was a history of herpes, but even in this case the odds ratio was 2.3 with 95 percent CI 0.8, 6.5 ($p > 0.08$). There was no increased risk associated with a history of blood transfusion since 1978.

With regard to high-risk behavior patterns, there was no statistically significant difference in HIV seropositivity rates in men who responded negatively to questions about same-sex activities since 1978 and men who failed to respond to the same questions. Men who responded affirmatively to these questions showed a markedly higher rate of positive HIV an-

Table 2. HIV Seropositivity Univariate Analysis

Factor	N*	Seropositive Number	(%)	P-Value†
Sex				
Male	1,377	51	(3.7)	
Female	820	5	(0.6)	<0.001
Race				
White	506	7	(1.4)	>0.11‡
Nonwhite	1,544	40	(2.6)	
Age				
<15	26	0	(0.0)	
15-19	534	5	(0.9)	
20-29	1,163	32	(2.8)	<0.02§
30-39	330	15	(4.6)	
40-49	66	3	(4.6)	
>50	37	0	(0.0)	
Parenteral drug use (self) since 1978				
Yes	142	8	(5.6)	0.01
No	1,989	45	(2.3)	
Parenteral drug use by sex partner since 1978				
Yes	224	11	(4.9)	
Not sure	292	12	(4.1)	<0.01
No	1,616	30	(1.9)	
RPR results #				
Reactive	123	22	(17.9)	<0.001
Nonreactive	2,352	41	(1.7)	
History of Syphilis				
Yes	148	15	(10.1)	<0.001
No	2,060	42	(2.0)	
History of gonorrhea				
Yes	901	32	(3.6)	<0.05
No	1,311	24	(1.9)	
History of hepatitis B				
Yes	57	4	(7.0)	<0.05
No	2,155	53	(2.5)	
History of herpes				
Yes	69	4	(5.8)	>0.08‡
No	2,143	53	(2.5)	
History of venereal warts				
Yes	692	38	(5.5)	<0.001
No	1,520	19	(1.3)	
History of blood transfusion since 1978				
Yes	68	2	(2.9)	NS
No	2,028	51	(2.5)	
Any risk factor¶	518	35	(6.8)	<0.001
No risk factor	2,095	26	(1.3)	
For males: history of male-to-male sexual activity since 1978				
Yes	79	23	(29.1)	
Failed to answer	179	5	(2.8)	<0.001
No	1,095	22	(2.0)	
For heterosexual males: history of sex with a prostitute				
Yes	159	2	(1.3)	
Not sure	134	4	(3.0)	.6‡
No	717	13	(1.8)	

* Number of persons responding to each question
† P values calculated for comparisons: risk factor present/risk factor absent
‡ Not significant
§ P value for trend with increasing age
\# Rapid plasma regain test
¶ Respondent answered yes to any one of the following: male to male sexual activity, parenteral drug use in self or sexual partner, history of transfusion, heterosexual exposure to a prostitute, or a bisexual male since 1978.

tibody tests. There was no association of seropositivity with history of sex with a prostitute. Since relatively few women (17) reported that their sex partner was bisexual, risks attributable to this factor could not be determined.

For men, there was a trend for increasing rates of seropositivity with increasing age through the fifth decade (Figure 1). For women, the trend appears to be similar but, because of the very low number (5) of seropositives, detailed analysis was not feasible.

Geographic and Racial Differences

Examining the seropositivity rates by type of region, we found 3/427 (0.7 percent) specimens from three rural regions were positive, 18/1460 (1.2 percent) of specimens from two suburban regions were positive, and 45/979 (4.6 percent) of the specimens from Baltimore City were positive. Since difference between rural and suburban regions was not statistically significant, data from all regions outside Baltimore City were therefore pooled for further comparisons.

The demographic characteristics of the population attending STD clinics in Baltimore City are significantly different from those of the population attending STD clinics elsewhere in the state (Table 3). The Baltimore City clinics provide STD services to a younger, more often male, and overwhelmingly nonwhite group that is also more likely to have a history of past STD, especially venereal warts (69.5 percent). The proportions of male attendees admitting to sexual activity with another male since 1978 and the proportions of all attendees admitting parenteral drug use or having had a sex partner who used drugs parenterally are essentially the same for urban and suburban/rural areas.

In the Baltimore City serosurvey, black STD clinic attendees were found to be statistically more likely to be seropositive than white attendees (5.0 vs 1.2 percent, $p < 0.02$).[25] This difference was not found among

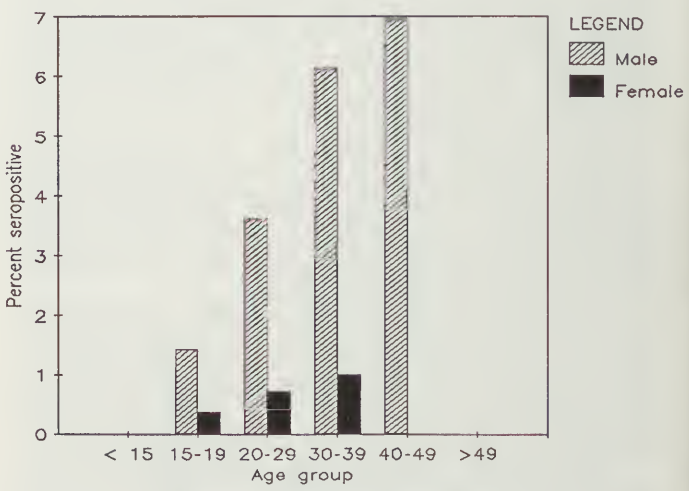


Figure 1. Serostatus by Age Group

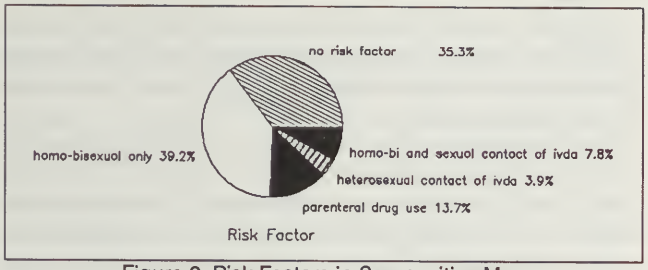


Figure 2. Risk Factors in Seropositive Men

black and white attendess in areas outside of Baltimore City (1.2 vs 1.5 percent, $p = 0.63$). In areas outside Baltimore City, black STD clinic attendees were more likely than white attendees to report a history of syphilis, (7.2 percent vs 2.4 percent, $p < 0.001$) or gonorrhea (48.1 percent vs 24.6 percent, $p < 0.001$), while white attendees were more likely to report parenteral drug use in themselves (11 percent vs 3.3 percent, $p < 0.001$) or sexual partners (15.6 percent vs 6.8 percent, $p < 0.001$). There was no statistically significant racial difference in the reported frequency of male-to-male sexual activity since 1978.

Baltimore City and nonurban STD clinic attendees were compared stratified by race. When comparing urban and suburban/rural groups, urban attendees were more likely to have reactive serological tests for syphilis and to report a history of venereal warts regardless of race. The data for white attendees showed that urban attendees were older than their nonurban counterparts. The data must be interpreted with caution because of the small number of white attendees in Baltimore.

There were several statistically significant differences by clinic location among black attendees. Urban black attendees were more likely to be male, to have a history of syphilis, and to report intravenous drug use in self or sex partner and were more likely to be seropositive than their nonurban counterparts (4.2 vs 1.2 percent, $p < 0.001$).

Risk Factors in Seropositives

Sex and risk-factor information was not reported for 10 of the 66 seropositives. Only 1 of the 5 female seropositives responded affirmatively to any question on recognized risk factors. That woman reported parenteral drug use since 1978. Figure 2 is a pie chart of risk factors in 51 seropositive males. More than a third (18) of the seropositive men failed to report a recognized risk factor. Six of these men (11.8 percent of the seropositive men) did not respond to any of the risk factor questions. Two (3.9 percent) seropositive men had reported heterosexual contact with a parenteral drug user as their only risk factor. Nearly half the seropositive men (24 of 51) reported male-to-male sexual activity, and 13.7 percent were parenteral drug users.

Figure 3 A and B depicts serostatus by number of male and female sex partners reported for the previous 30 days by male respondents. Since exclusively homosexual men have had zero female sex partners in the last 30 days, higher rates were seen in this group than in men who reported one or more female partners in the past 30 days. Taking this into account, it appears there may be a trend toward increasing seroprevalence rates with increasing numbers of partners of either sex. Because of the small numbers of respondents reporting more than four partners in the past 30 days, this impression may not be accurate. The only difference in rates reaching statistical significance is that between zero partners and at least one partner of either sex.

Table 3. Geographic Differences in Demographic and Risk Factor Characteristics

Variable	Baltimore City N=979 %	No.*	Remainderof Maryland N=1,887 %	No.	P-Value
Nonwhite	94.4	(793)	63.1	(1,264)	<0.001
Male	69.8	(886)	57.9	(1,318)	<0.001
Age:		(841)		(1,301)	
<15	1.2		1.2		
15-19	27.2		23.4		
20-29	51.6		55.1		<0.04
30-39	14.1		16.1		
40-49	3.2		3.0		
>50	2.6		1.2		
History of syphillis	9.1	(844)	5.2	(1,321)	<0.001
Reactive RPR	6.8	(981)	3.9	(1,504)	<0.001
History of venereal warts	69.5	(894)	5.4	(1,325)	<0.001
History of gonorrhea	43.9	(894)	38.6	(1,325)	0.01
Males admitting sex with males since 1978	8.4	(486)	6.5	(710)	0.11+
History of IVDA since 1978	7.7	(833)	6.2	(1,305)	0.19+
History of IVDA in sex partner	11.4	(839)	11.5	(1,300)	0.26+
Confirmed HIV serpositive	4.6	(979)	1.1	(1,877)	<0.001

* N is the number of questionnaires with responses on the variable being analyzed.
\+ Not significant

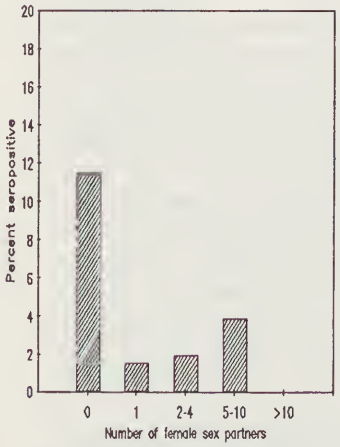


Figure 3A. Serostatus in Men by Number of Female Sex Partners in Past 30 Days

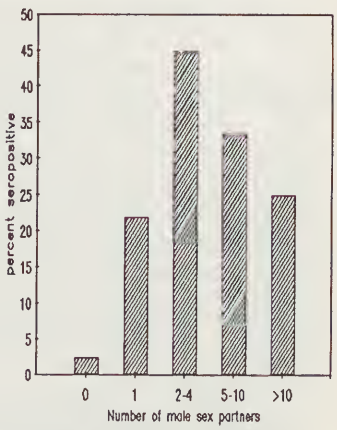


Figure 3A. Serostatus in Men by Number of Male Sex Partners in Past 30 Days

Multiple Logistic Regression Analysis

The serosurvey data were tested using multiple logistic regression analysis to detect variables independently associated with an increased risk of HIV infection. Female respondents were omitted from the analysis because of the very low number of female seropositives (N =5). Table 4 presents the variables found to be independently associated with increased risk of HIV infection for male respondents. The number of male sex partners in the past 30 days was directly associated with risk of HIV infection, while the number of female sex partners in the past 30 days was inversely associated. Serologic evidence of syphilis (a reactive RPR) markedly increased the risk of HIV infection, while a history of venereal warts moderately increased the risk. A history of gonorrhea, herpes, or hepatitis B failed to show an independent association. Race and age did not show statistically significant associations.

Analysis was then performed controlling for male-to-male sexual activity. With men who admitted sexual contact with another male eliminated from the analysis, parenteral drug use since 1978 again shows a significant association with risk of HIV infection (Beta = 0.9985, $p < 0.001$, OR 2.7, 95 percent, CI 1.5, 4.8).

Discussion

Partial demographic information was available on more than 75 percent of the serosurvey, and complete demographic and behavioral risk factor data were available on more than 66.6 percent (1,935/2,887). There were minimal differences between anonymous questionaires and personal interviews on a sample from the same population. Two-stage matching procedures allowed linkage of questionaire and serologic test data without jeopardizing anonymity. There was no evidence that the STD clinic attendees who failed to complete questionnaires were at increased risk of HIV infection. Male respondents who failed to answer questions on same-sex activities had essentially the same risk of HIV infection as male respondents reporting no same-sex activities since 1978. Individual KAB interviews failed in detecting a higher prevalence of most risk behaviors.

Table 4. Multiple Logistic Regression for Male Respondents

Variable	Beta	P-Value	OR	(95% CI)
Reactive RPR	1.5859	.002	4.9	(1.8, 13.1)
Male sex partners since 1978	1.0376	<.001	2.8	(1.8, 4.5)
Number of male partners in past 30 days	0.7901	.02	2.2	(1.1, 4.3)
Number of female partners in past 30 days	-0.8341	.02	0.4	(0.2, 0.9)
History of venereal warts	0.4067	.05	1.5	(1.0, 2.3)
History of parenteral drug use since 1978	0.4344	.11*	1.5	(0.9, 2.6)
Age	0.0313	.09*	1.0	(0.99, 1.1)
Race	0.4368	.40*	1.5	(0.6, 4.3)

* Not significant

Our data suggest that attendees at STD clinics are at moderately increased risk of HIV infection. While the rate of HIV infection was significantly higher in Baltimore City STD clinics, the risk of HIV infection for those attending STD clinics exists throughout the state, even in essentially rural areas. The overall seropositivity rate for heterosexual men (22/1,095, 2 percent) was higher than that reported for heteroxexual men in New Mexico (6/786, 0.76 percent)[27] and lower than the 3.4 percent reported in 295 heterosexual men studied in New York City STD clinics.[28] The overall seropositivity for women (5/820, 0.6 percent) showed a similar pattern being greater than New Mexico (0/476, 0 percent), and comparable to San Francisco STD clinic data (2/299, 0.67 percent).[29]

Similar to the experience in New Mexico, we found no significant increased risk in nonwhite clinic attendees in areas outside of Baltimore City. This contrasts to the significant racial differences in risk of HIV infection reported in Baltimore City STD clinics. The racial differences noted in Baltimore City may be attributable to the increased prevalence of syphilis, venereal warts, and intravenous drug use in black attendees at those clinics compared to the prevalence of these same risk factors in the black attendees at clinics elsewhere in Maryland. Urban black attendees were more likely to report a history of parenteral drug use in a sexual partner than nonurban attendees. There were no intrastate geographic differences in the prevalence of the high-risk behavior pattern of male-to-male sexual activity regardless of race.

The data on white attendees in Baltimore City may be very misleading because the overall number of white attendees is very low. This apparent underrepresentation of white STD clients in these clinics may be due to high-risk white persons within Baltimore City seeking evaluation and treatment for suspected STD at sites other than the Health Department, such as the Gay STD clinic, the national cohort study of Gay men, and university teaching hospitals. Similar resources are not as easily available to persons who reside in nonurban areas who suspect that they have STD and/or HIV infection.

The lack of racial differences in rates of HIV infection in the nonurban portion of this population lends support to the conclusion that behavior patterns and risk of STD, rather than race alone, influence the risk of acquiring HIV infection. The overall rates of STD and intravenous drug abuse are higher in nonwhite populations in Maryland (unpublished data, Maryland Division of STD Control) and elsewhere.[30-32] These factors play an important role in the assessment of risk of HIV infection.

In addition to the recognized high-risk behaviors of male-to-male sexual activity and parenteral drug use,

both syphilis and a history of venereal warts were independently associated with increased risk of HIV infection. These findings are consistent with previous published reports.[19-21,25] The current increases in incidence of primary and secondry syphilis being reported in Maryland and across the nation[33] become a more ominous threat when seen in this context. Control of STD, especially infectious syphilis, becomes an essential component of the control and prevention of HIV infections.

In view of the high correlation of HIV infection with serological evidence of syphilis, MDHMH has recommended that all patients with syphilis be encouraged to have HIV counseling and testing. Counseling and testing for antibodies to HIV with informed consent is routinely offered to all attendees at public STD clinics in Maryland.

The overall seropositivity rate for gay/bisexual men in this study (23/79, 29.1 percent) was higher than the rate for gay/bisexual men at Maryland counseling and testing sites in 1985 and 1986 (261/1,358, 19.2 percent). Gay/bisexual men have been reluctant to receive counseling and testing even though, at the time of the survey, 91 percent of the tests performed in Maryland counseling and testing sites were performed on an anonymous basis (unpublished data, G. vanBlerk).

The overall rate for parenteral drug users (8/142, 5.6 percent) is lower than the rates seen in Maryland counseling and testing sites through 1986 (12.3 percent) and in serosurveys in methodone maintenance centers in Baltimore, 15.2 percent (unpublished data, D. Glasser) to 29 percent.[34] The data from STD clinic attendees reflect the inclusion of not only frequent parenteral drug users and/or persons with drug dependency but also of casual and experimental users. Attendees were asked to indicate if since 1978, they had ever used a needle to shoot drugs into a vein or under the skin. They were not asked about the frequency of needle use.

Data from the Maryland Addictions Administration indicates that approximately 0.9 percent of the population uses opiates. Among STD clinic attendees, 6.7 percent admitted to injecting drugs parenterally on at least once occasion, and 11.4 percent had a sex partner who had used drugs parenterally. Health education regarding drug use and the risk of HIV infection should be provided to STD clients. Efforts to discourage even casual drug use, to discourage sexual activity with known drug users, and to encourage participation in drug treatment programs should be initiated in STD clinics.

The scope of STD clinic services should be broadened to include counseling, education, and referral services for health needs related to risk of HIV infection. Provision of or referral for contraceptive and substance-abuse services and routine HIV counseling and testing will necessitate an increase in professional staffing to deal with the expanding clinical responsibilities and the additional time that must be alloted for each patient visit.

Acknowledgments

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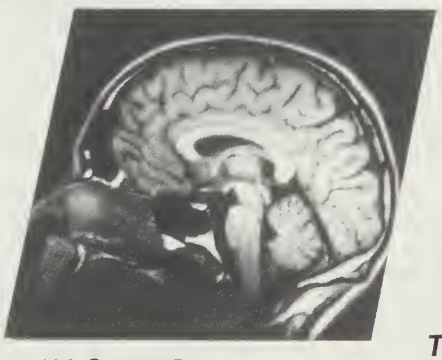
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Prehospital Providers' AIDS Knowledge and Attitudes

Michael E. Thompson MS and James N. Eastham, Jr., ScD

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Of the 110 career and volunteer prehospital care providers surveyed from two Maryland counties, about 20 percent were concerned about dealing with AIDS patients, including 24 percent who have considered leaving EMS due to the risk of HIV infection.

Prehospital Emergency Medical Service (EMS) providers routinely perform basic and advanced life support interventions on patients about whom very little is known at the time of treatment. This EMS response typically includes extrication, hemorrhage control, invasive procedures, other exposures to blood or body fluids, and contact with sharp and potentially contaminated objects.[1,2] Consequently, infection control in the EMS environment is inherently less controllable than in the hospital setting, although equally critical to the health of both patient and provider. Thus EMS providers should be well versed in infection control principles and practices. Research regarding prehospital provider's infection control awareness by Fishman and Stamp,[3] however, revealed that prehospital care providers are not sufficiently knowledgeable about infection control procedures to adequately protect themselves or their patients from infections. This issue needs to be addressed, specifically in light of the emergence of the acquired immunodeficiency syndrome (AIDS) and its etiological agent, the human immunodeficiency virus (HIV), as a major health concern.

Although many AIDS education programs[1,2,4-6] have been developed to address the needs and concerns of prehospital providers, provider knowledge and attitudes concerning AIDS, HIV, and appropriate infection-control practices have not yet been reported in the literature. Establishing this baseline is an important and necessary prerequisite in the evaluation of both established and proposed educational interventions that address control and prevention of communicable diseases. We examine variations in provider knowledge and attitudes, controlling for the selected provider characteristics of skill level, pay status, county, and self-reported familiarity with the Centers for Disease Control[7] (CDC)/Maryland Institute for Emergency Medical Services Systems[1,2] (MIEMSS) Infection Control Guidelines.

Methods

A sample of 110 Maryland prehospital care providers was drawn from two suburban Baltimore counties, denoted as County A and County B. The sample represented 1.8 percent of the EMS providers from the two participating counties and 0.5 percent of all state EMS providers. Subjects were enrolled in skills refresher classes during the spring of 1988. In all, six classes were surveyed: one First Responder, one EMT-A, and one Cardiac Rescue Technician/Paramedic course from each of the two counties. The providers enrolled in these classes were all actively involved in EMS field care. The response rate was 100 percent return and completion.

A 35-item AIDS knowledge and attitude survey was constructed, adapting items from a survey by Wertz *et al.*[5] The Wertz survey originally was developed to assess the effectiveness of a hospital-based provider education program. Adaptations of the survey were necessary for improved clarity and applicability to EMS providers. Transmission risk items and infection control items addressed the respondents' knowledge of the common routes of exposure to infectious agents and the appropriate level of personal protection to be employed in preventing exposure to HIV. The appropriate responses were derived from the Centers for Disease Control (CDC)/Maryland Institute for Emergency Medical Services Systems (MIEMSS) infection control guidelines, which had been distributed to EMS providers statewide by MIEMSS.[1,2] Attitudinal items were assessed using a six-point Likert scale. Basic demographic information of skill level, career status, and self-reported guideline familiarity also was collected.

Individual responses to the 15 knowledge items were compared to appropriate answers based on the CDC/MIEMSS guidelines. Each respondent was given a "knowledge score" based upon the number of correct responses according to the CDC/MIEMSS guidelines. Knowledge scores can range from 0 to 15. Similarly, an "overcautiousness score" was derived from the number of instances where the extremely cautious response was inappropriately selected. The overcautiousness score consisted of the 10 items whose appropriate response was neither "Very Likely" nor "Always." Knowledge item responses were examined when controlling for the respondent's skill level (invasive/noninvasive), career status (paid/volunteer), county of practice, and self-reported familiarity with the CDC's infection control guidelines. Attitudinal items that addressed career issues were similarly analyzed. Statistical analyses include Fisher's exact test and student's *t* test. Statistical significance was set at $p < 0.05$.

Results

The sample (N = 110) consisted of 26 first responders (FR), 32 basic life support emergency medical technicians (EMT-A), 7 intravenous therapy technicians (EMT-IV), 26 cardiac rescue technicians (CRT), and 19 paramedics (EMT-P). For the purpose of analysis, the subjects were condensed into two skill levels: noninvasive (FR, EMT-A; N= 58) and invasive (EMT-IV, CRT, EMT-P; N= 52). Approximately three-fourths of the sample were paid providers. One-third of the paid providers also reported additional volunteer work at their local station; these respondents were classified as career providers for the analysis. The demographic data are summarized in Table 1.

Knowledge Of the 7 transmission risk assessment items and the 8 infection control procedure items comprising the knowledge portion of the survey (Tables 2a, 2b), the respondents' average knowledge score was 7.6 (standard deviation ± 2.2). As shown in Table 3, no one correctly answered less than 3 knowledge items; no respondent correctly answered all 15 items. The average over cautiousness score was 2.80 (SD ± 2.2). Twelve respondents (11 percent) did not indicate any inappropriate extreme responses, while one respondent (1 percent) indicated the maximum of 10 over-

Table 1. Characteristics of Prehospital Care Providers Surveyed

		Pay Status		County	
EMS Skill Level	Totals	Volunteer	Career/ Both	A	B
Noninvasive:	58	19	39	30	28
First responder	26	12	14	13	13
EMT-ambulance (basic)	32	7	25	17	15
Invasive:	52	10	42	21	31
EMT-intravenous technician	7	2	5	1	6
Cardiac rescue technician	26	6	20	3	23
EMT-paramedic	19	2	17	17	2
Totals	110	29	86	51	59

EMT = emergency medical technician

Table 2a. HIV Transmission Risk Assessments Among Prehospital Care Providers

HIV Transmission Risk	Very Likely	Possible, but Unlikely	Very Unlikely	CDC/ MIEMSS Standard
Needlestick	87 (79%)	20 (18%)	3 (3%)	Very likely
Mouth-to-mouth resuscitation	42 (38%)	58 (53%)	10 (9%)	Possible but unlikely
Shaking hands	2 (2%)	14 (13%)	94 (86%)	Very unlikely
Touching bloody equipment	40 (36%)	60 (55%)	10 (9%)	Very unlikely
Splashing of blood on intact skin	38 (35%)	48 (44%)	24 (22%)	Very unlikely
Cleaning up vomit	27 (25%)	6 (56%)	122 (20%)	Very unlikely
Changing linen	18 (16%)	53 (48%)	39 (36%)	Very unlikely

cautious responses. Student's *t* test analysis of the score means when controlling for the provider characteristics yielded no significant results.

Self-reported familiarity with the CDC/MIEMSS guidelines was associated with a weak but consistent trend toward more accurate transmission risk knowledge. Changing soiled linen was the only item to obtain the requisite significance level ($p < 0.05$). For the items shaking hands, touching bloody equipment, and splashing of blood on intact skin, marginal statistical significance ($p < 0.10$) was observed. The lack of statistical significance of these items is partly attributable to the small sample size.

The majority of respondents, when disagreeing with the CDC/MIEMSS infection control guidelines, erred by overstating their risk of acquiring AIDS and their need for prophylactic barrier devices. Respondents who reported they were familiar with the guidelines, when erring were less likely to indicate the inappropriate overcautious response "very likely" for the transmission risk items of touching bloody equipment ($p < 0.05$), splashing blood on intact skin ($p < 0.10$), and cleaning of vomitus ($p < 0.10$) than those who reported they were not familiar with the guidelines. Controlling for training level indicated that invasive providers were significantly ($p < 0.05$) more knowledgeable than their noninvasive counterparts about risk of HIV infection from blood exposures. No statistically significant associations between provider pay status and knowledge level were observed.

Controlling for county of service revealed a significant response difference in reported need for barrier precautions such as gowns, masks, eyewear, and gloves. Respondents from County B were more likely ($p < 0.05$) than respondents from county A to see gowns, masks, gloves, and eyewear as always necessary (Table 4). The CDC/MIEMSS guidelines indicate that gowns, masks, and eyewear are rarely necessary in the field and that gloves are necessary when exposure to blood is likely, that is, sometimes necessary. No differences were observed for the remaining infection control items, all of which pertained to procedural practices rather than to the use of a physical barrier.

For AIDS knowledge and information, respondents rely on formal training programs and journals as their primary sources (Table 5). Controlling for provider characteristics revealed that noninvasive providers were more likely than invasive providers ($p < 0.05$) to see fellow EMS providers and television/radio as very important sources of their AIDS information. Additional information sources cited as "Very Important" included other health professionals and family and friends.

Attitudes The attitudinal item responses (Table 6) provided insight into the dichotomous feelings

Table 2b. Reported Necessity of Selected Infection Control Procedures among Prehospital Care Providers

Infection Control Procedure	Perceived Necessity			CDC/MIEMSS Standard
	Always	Sometimes	Rarely	
Discard needles without recapping	90 (82%)	9 (8%)	11 (10%)	Always
Avoid unprotected contact with blood	99 (90%)	9 (8%)	2 (2%)	Always
Handwashing	106 (96%)	3 (3%)	1 (1%)	Always
Use of gowns	14 (13%)	67 (61%)	29 (26%)	Rarely
Use of masks	18 (16%)	60 (55%)	32 (29%)	Rarely
Use of gloves	89 (81%)	21 (19%)	0 (0%)	Sometimes
Use of protective eyewear	20 (18%)	63 (57%)	27 (25%)	Rarely
Covering of provider's open wounds	107 (97%)	3 (3%)	0 (0%)	Always

Table 3. Exact Agreement and Overcautious Response Scores among Prehospital Care Providers

Number of Exact Agreement	Frequency	Percent	Number of Overcautious Responses	Frequency	Percent
0	0	0	0	12	11
1	0	0	1	26	24
2	0	0	2	21	19
3	2	2	3	17	15
4	2	2	4	12	11
5	11	10	5	4	4
6	24	22	6	10	9
7	23	21	7	6	5
8	11	10	8	0	0
9	16	15	9	1	1
10	9	8	10	1	1
11	6	6			
12	3	3			
13	1	1			
14	2	2			
15	0	0			
	$\bar{X} = 7.6 \pm 2.2$			$\bar{X} = 2.8 \pm 2.2$	

Table 4. "Always Necessary" Response for Selected Infection Control Procedures among Prehospital Care Providers

Infection Control Procedure	County A (n=51)	County B (n=59)
Use of gloves	36 (71%)	53 (90%)
Use of gowns	3 (6%)	11 (19%)
Use of protective eyewear	4 (8%)	16 (27%)
Use of masks	4 (8%)	14 (24%)

All items significant ($p < 0.05$), Fisher's Exact Test.

Table 5. "Very Important" Training Sources, by Training Level

Information Source	Noninvasive (n=58)	Invasive (n=52)
Formal EMS training	50 (86%)	47 (90%)
Fellow EMS providers *	37 (64%)	19 (37%)
Other health professionals	35 (60%)	23 (44%)
Family/friends	23 (40%)	12 (23%)
Print media/journals	39 (67%)	31 (60%)
Television/radio *	34 (59%)	17 (33%)

* $p < 0.01$, Fisher's Exact Test

surrounding AIDS. For example, when combining all three agreement response categories, 70 percent of the respondents believe they have sufficient training to protect themselves from HIV infection, yet 68 percent indicated that the threat of AIDS is one of the more stressful aspects of EMS, and 68 percent fear spreading AIDS to their families. Also, if properly protected, 77 percent indicated they would treat an AIDS patient, but given a choice 75 percent would prefer not to, and 29 percent feel that EMS providers should not be required to treat AIDS patients. Of concern to EMS system managers is the 24 percent who have considered leaving EMS; the 21 percent who, if they knew then what they now know about AIDS, would never have gotten involved in EMS; and the 22 percent who would not recommend EMS work to a friend.

When controlling for provider characteristics, noninvasive providers were more likely ($p < 0.05$) than invasive providers to perceive AIDS as stressful and think EMS providers should not have to treat AIDS patients (see Table 7). Volunteers were more likely ($p < 0.05$) than paid providers to think that EMS providers should not have to treat AIDS patients and to have considered leaving EMS. No significant associations were observed for self-reported guideline familiarity or county of service.

Table 6. Attitudinal Item Responses of Prehospital Care Providers

Statement	Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree
I have sufficient knowledge to protect myself from AIDS.	14 (13%)	23 (21%)	39 (36%)	21 (19%)	9 (8%)	4 (4%)
Working with AIDS is one of the more stressful parts of EMS.	22 (20%)	28 (25%)	25 (23%)	25 (23%)	5 (5%)	5 (5%)
Because I work as an EMS care provider I fear spreading AIDS to my family.	32 (29%)	20 (18%)	23 (21%)	25 (23%)	5 (5%)	5 , (5%)
If I were properly protected, I would treat someone known to be infected with the AIDS virus.	14 (13%)	38 (35%)	32 (29%)	13 (12%)	4 (4%)	9 (8%)
If I had a choice, I would prefer to avoid treating a person with AIDS.	32 (29%)	24 (22%)	26 (24%)	16 (15%)	10 (9%)	2 (2%)
I think prehospital providers should not be required to work with AIDS patients.	6 (6%)	12 (11%)	13 (12%)	44 (40%)	24 (22%)	11 (10%)
I am concerned enough about my risks of contracting AIDS that Ihave considered leaving EMS.	6 (6%)	7 (6%)	13 (12%)	28 (26%)	38 (35%)	18 (16%)
Knowing what I now know about AIDS, I would not have gotten involved in prehospital care.	4 (4%)	8 (7%)	11 (10%)	20 (18%)	51 (46%)	16 (15%)
Because of the AIDS situation, I would not recommend a career as a prehospital provider to someone I know.	7 (6%)	3 (3%)	14 (13%)	20 (18%)	44 (40%)	22 (20%)

Table 7. Distribution of Responses Agreeing (Tend to Agree, Agree, or Strongly Agree) by Provider Characteristics

Statement	Noninvasive (n=58)		Invasive (n=52)	Volunteer (n=29)		Paid/Both (n=81)
Working with AIDS is one of the more stressful parts of EMS.	47 (81%)	*	28 (54%)	22 (76%)		53 (65%)
I think prehospital providers should not be required to work with AIDS patients.	21 .(36%)	*	10 (19%)	13 (45%)	*	18 (22%)
I am concerned enough about my risks of contracting AIDS that I have considered leaving EMS.	15 (25%)		11 (21%)	11 (38%)	*	15 (19%)

* Comparison significant ($p < 0.05$), Fisher's Exact Test

Discussion

Self-reported familiarity with the CDC/MIEMSS guidelines was the variable most closely associated with transmission risk knowledge and conversely fewer extreme (overcautious) responses to the transmission risk items. As previously mentioned, small sample size may have contributed to the marginal significance ($0.10 < p < 0.05$) of the transmission items of touching bloody equipment, splashing blood on intact skin, and cleaning up vomitus. The association between self-reported familiarity, accurate transmission risk knowledge, and reduced occurrence of inappropriately cautious responses is encouraging. It indicates the efficacy of mailed informational materials, provided they are read. These materials, particularly when coupled with classroom instruction such as

the new MIEMSS Infectious Disease Program, are potentially an effective and efficient means of educating and informing EMS providers. This assertion is supported by several hospital provider studies[5,6,8,9] that report the efficacy of in-service education programs.

County of service was associated with infection control procedure knowledge level. Respondents from County B were more likely than respondents from County A to perceive barriers such as gowns, masks, eyewear, and gloves as always necessary. The CDC/MIEMSS guidelines for these items indicate that gowns are never necessary in the field, masks and eyewear are only necessary if splashing of blood is a possibility, and gloves are necessary when contact with blood is expected. This threat is clearly not present on every EMS call made. Both counties' policies conform to the established MIEMSS guidelines and procedures. Possible explanations for this diversity include county differences in informal policy or sensitization to AIDS issues from a well-publicized incident. Such findings warrant further investigation. Not only do inappropriate use of barrier precautions result in the waste of valuable material resources, but also they may reflect unsubstantiated fear of HIV infection and cause distress to patients who may negatively react to providers dressed like "spacemen."

The mean aggregate knowledge score (51 percent) was disappointingly low. One caveat in interpreting this result, however, is that many of the incorrect responses reflect selection of the median responses: "possible, but unlikely" or "sometimes necessary." Selection of these responses may reflect differences in semantic interpretation of the terms used rather than differences in true knowledge. The frequency of inappropriate extreme responses, mean score of 28 percent, however, suggests this is not entirely the case. Responding with inappropriate (overcautious) responses clearly indicates a lack of knowledge or of unwarranted fear. Eighty-nine percent of the respondents provided an inappropriate extreme response to one or more items; 20 percent to at least half (five or greater) of the items. Obviously, there is a great deal of room for improvement in EMS providers' AIDS knowledge. Fortunately, this knowledge deficit results in the provider being inappropriately cautious rather than in the endangerment of the patient or the provider.

EMS providers indicated that formal education programs and journals are their primary sources of AIDS information. These findings further support the previous contention that printed informational materials, when combined with classroom instruction, are an effective means of educating EMS personnel. Noninvasive providers were more likely to rely on information sources such as television and fellow providers than were their invasive counterparts. Thus, different approaches to educating the noninvasive and invasive provider may be warranted.

The attitudinal items revealed a group of 24 percent who are concerned enough with the AIDS threat to EMS providers that they have considered leaving EMS. Sixty-eight percent of the respondents consider AIDS one of the more stressful aspects of EMS. A similar number fear spreading AIDS to their families. Clearly efforts must be made to address these concerns and to reassure EMS providers through education and counseling programs. Paradoxically, 77 percent of the respondents would treat an AIDS patient if properly protected, yet a similar number would prefer to avoid doing so, given the choice. In this respect, the providers were generally homogenous, with only three items (Table 7) displaying any significant variation when controlling for provider characteristics. These results, however, indicate the possibility of a trend toward greater AIDS/HIV concerns among noninvasive and volunteer providers. Such a trend would be consistent with the contention that increased education reduces AIDS/HIV concerns. The limited sample size did not permit simultaneous control for both training level and career status. A lager sampling would enable further examination of this trend.

EMS providers' conflicting attitudes toward dealing with AIDS patients may indicate a mercurial temperament. These providers may be responding to the AIDS situation emotionally rather than logically. The absence of a solid knowledge base plays a pivotal role in such a response. Such findings are particularly important to areas serviced by volunteers. Most volunteer recruiting is by word-of-mouth.[10] Reducing the number of new volunteers due to unwarranted fears or rumor of HIV infection risks could exacerbate current volunteer manpower shortages. Disgruntled providers also may act as constant agitators who influence and incite others, possibly leading to increased tension and counteracting any progress made through education and information programs.

A statewide assessment of prehospital providers' AIDS/HIV knowledge and attitudes is warranted. Such a study would provide a valuable perspective of current knowledge levels and attitudes while also providing a benchmark against which to evaluate educational and counseling program effectiveness.

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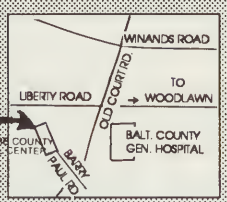
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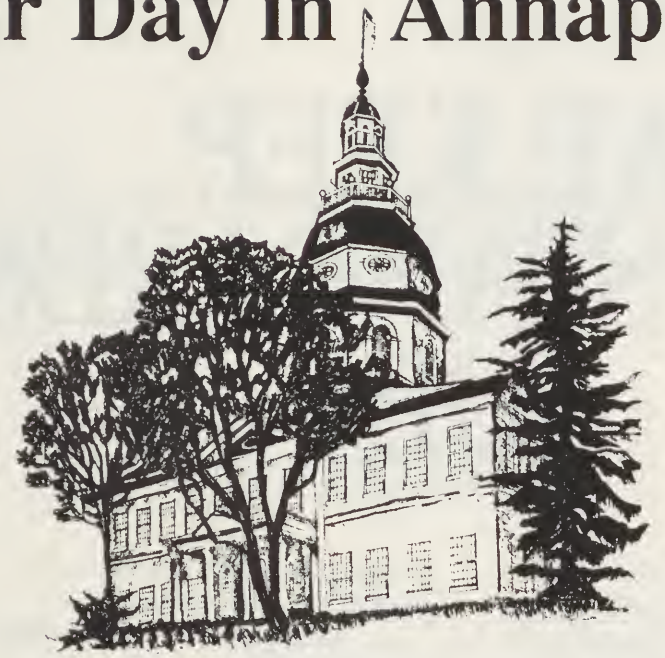
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The Head-Injured Outpatient: Presentations and Rehabilitation

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Head injury, which annually affects 154 per 100,000 persons in Maryland, is a serious problem requiring attention from the medical community. The role of the general practitioner is viewed as central to the process of rehabilitation since this medical professional has a pre-existent relationship with the patient and the family.

The origins of rehabilitation date back to the turn of the twentieth century, when it was observed that patients in a tuberculosis sanitorium who participated in an occupational therapy program did better than those who did not participate, regardless of level and advancement of disease. By the end of World War I, dramatic changes had occurred in the management of the wounded, resulting in better outcomes compared with prior conflicts. For the first time in medical and general social literature, comments emerged concerning patients suffering from "head injury" and "shell shock." Also noted was the inability of the health care delivery system to cope with the immediate and, more importantly, the long-term effects once the individual returned to the civilian community. Many of the head injured never returned to employment, were admitted to closed psychiatric units, and were a constant drain on their families' emotions and financial resources.[1-4] Head injury rehabilitation has remained a major challenge to all aspects of the health care delivery system. In this article we focus on patients who return to the community upon discharge from an acute care setting and, in most instances, a rehabilitation hospital. These patients still may be participating in outpatient rehabilitation to promote reintegration into the community.

Nationally, approximately 500,000 individuals suffer severe head injuries each year.[5] Review of Maryland data indicates an annual incidence of 154 severe injuries per 100,000 cases of head trauma, which approximates the incidence of 152 per 100,000 in Rhode Island.[6,7] Twenty-eight percent of head injuries occur in individuals age 15 through 24 years, 19 percent in individuals age 25 through 34 years, and 10 percent in individuals age 35 through 44 years.[8] Males account for 67 percent of all patients with head injuries. Though this injury occurs primarily in young males, one must also recognize its occurrence among older individuals.[9] In

Maryland, 6,000 persons survive serious head injury annually. Financially, the treatment of head injury is a multibillion dollar industry.

Acute Care Management

Improvements in evacuation procedures and acute medical management of patients with traumatic head injury have greatly increased the likelihood of survival. Medical management has advanced in complexity as more sophisticated diagnostic and treatment modalities have become available. The expanding body of knowledge about head injury and the evolving methods of treatment have led to the development of specialized centers with teams dedicated to treating trauma.

The pathophysiology of head injury can be divided usefully into two types: primary and secondary injury. Primary brain injury occurs at the time of impact and is the result of mechanical factors, that is, direct disruption of the brain tissue and supporting structures. A major cause of primary brain damage following closed head injury is diffuse microscopic shearing/stretching of nerve fibers.[10] This may occur with injury of all grades of severity. Macroscopic lesions occurring at the time of impact include contusions and brain lacerations.[11] Regardless of the site of impact, contusions tend to occur most frequently in the frontal and temporal areas.[12] Secondary injury, which is delayed and a consequence of complications, is caused by processes triggered by the injury. Examples of processes causing secondary brain injury include intracranial hypertension and infection. Secondary damage related to extracranial factors may result from conditions such as hypoxia or emboli.[12] Intervention is aimed at preventing or limiting the secondary brain damage and preventing complications. In addition, many brain-injured patients have associated injuries that require the services of other surgical specialties. Severely traumatized patients also have metabolic, endocrine, autonomic, and pulmonary dysfunctions requiring the services of specialists in critical care medicine.

The severity of the head injury has direct significance in terms of expected functional outcome. Several clinical methods are available to assess severity of diffuse traumatic brain injury. The Glasgow Coma Scale provides a standard assessment of coma and disorders of consciousness in the immediate postinjury period.[13] The scale rates a patient's ability in three areas: eye opening (scores range from 1 [no eye opening] to 4 [spontaneous eye opening]), best motor response (scores range from 1 [no response to pain] to 6 [following simple commands]), and best verbal response (scores range from 1 [no verbalization] to 5 [verbalization of correct orientation]). Total scores range from 3 to 15, with scores of 3 to 8 rated as severe, 9 to 12 as moderate, and 13 to 15 as mild. The Glasgow Coma Scale is highly correlated with outcome in the acute hospital phase and more modestly with long-term outcome.[14,15] Another useful guide to severity of head injury is the duration of posttraumatic amnesia (PTA). Loss of ongoing memory for daily events after trauma onset (or PTA) is a very consistent and striking feature of diffuse traumatic brain injury. This memory loss may last for periods ranging from several seconds to many months or longer.[16]

Severe Brain Injury

The most obvious neurological sign in patients sustaining severe traumatic brain injury is coma. Coma is not a unitary phenomenon but occurs along a gradient of severity as assessed by the Glasgow Coma Scale. Recovery from coma tends to occur in stages. With lengthy periods of coma, recovery tends to be slow and stages are discerned easily. When duration of coma is relatively brief, passage through various stages may be so rapid as to obscure a recognizable progression.

Upon initial awakening from coma, the patient will tend to be alert but unresponsive. The first level of responsiveness achieved is often nonverbal, with recovery of the ability to speak immediately following. When the patient initially becomes verbal, confusion and dependency on others for basic self-care needs (bathing, dressing, etc.) are evident. Behavior is sometimes agitated and not goal directed during this phase of recovery. The ability to take responsibility for self-care then returns; significant deficiencies in attention, memory, and problem solving (cognitive functions) may be quite remarkable. Marked changes in affect, personality, and behavior may become prominent after confusion is cleared. Frequently, patients are affectively labile, with sudden episodes of laughing, crying, or anger that are out of proportion to provocation and may dissipate as quickly as they appear. Many patients are impulsive and manifest extremely poor judgment when engaged in everyday activities and often lack social awareness and inhibitions. Difficulties in initiating activities and sustaining motivation are extremely common. The long-term recovery from severe injury is a lengthy process. Typically, the most significant recovery of cognitive/behavioral changes occurs within the first three to six months subsequent to the injury. Severely injured patients are often in formal rehabilitation programs during this period.[17]

One large study looked at complaints after a severe concussion and found the most common items checked by patients were forgetfulness (54 percent), irritability (39 percent), slowness (33 percent), poor concentration (3 percent), fatigue (30 percent), and dizziness (26 percent). Posttraumatic amnesia (PTA), as assessed by the time from injury to return of day-to-day memory, was correlated with return to work in this population. If the PTA exceeded the "unlucky" number of 13 days, there was more difficulty returning to work.[18]

Slower improvement may occur well beyond the first six months after injury and persist for many months or years. Despite improvements in other areas, many patients go through a period of significant emotional

discomfort during the latter part of the first year after their injury; disturbances of significant relationships also appear to "peak" at this time. Appearance of emotional discomfort and deterioration of relationships have been related to realization by the patient and family of the severity and permanence of the patient's problems.[19] Monitoring, support, and referral for evaluation and treatment of behavior problems often must be considered at this juncture. Whenever possible, referral to a center specializing in services for traumatic brain injury is desirable. Even with the passage of many months and optimal treatment, many patients are left with a disabling deficit in memory, personality, and affect, which requires long-term intervention.[20]

One of the most persistent and aggravating symptoms associated with severe brain injury is recent memory disturbance.

Forgetfulness is a complaint frequently expressed by brain injury patients for years after injury. A second common and persistent deficit is the inability to switch from one task to another rapidly. Patients with managerial jobs often find it difficult to maintain them. One patient described the phenomena as though his brain "stuttered" and would not continue. This symptom was particularly reported as a problem in the two-year follow-up after severe injury. Another common finding is that these patients have difficulty resuming an activity that has been interrupted; for example, if a man leaves a task to answer a phone call, he forgets what he was doing originally.[18]

Personality changes are not unusual in the more moderate to severe head injury group. Often these changes are an exaggeration or aggravation of premorbid symptoms such as irritability, impulsiveness, substance abuse, or marital and sexual problems. Other changes, such as alterations in interpersonal sensitivity, emotional regulation, and motivation, pose extremely difficult challenges for family adjustment.[21,22] Additionally, patients and at times family members may refuse to acknowledge the changes in their lives or try to minimize them.

Postconcussive Syndrome

Patients with severe head injuries are usually identified early and have an array of services organized for them following hospitalization. These usually include inpatient rehabilitation on a specialized head injury unit such as found at Montebello Rehabilitation Hospital.[17] The severity of symptoms makes these patients easily identifiable. However, the majority of patients presenting to hospital emergency rooms for traumatic brain injury have suffered mild head injuries.[8] Although there are several ways to operationally define mild traumatic brain injury, the term generally applies to patients with brief or no loss of consciousness, a relatively short period of PTA, and no gross structural damage to the brain. Many of these patients are hospitalized briefly (because of risk of delayed complications such as subdural hematomas); some may never be admitted. Computed tomography (CT) scans, when ordered, are usually normal.[23] These patients frequently complain of one or several of a cluster of symptoms, often referred to as the postconcussive syndrome.

Characteristics of the postconcussive syndrome include irritability, diminished ambition, decreased tolerance to stress, lability of affect, tendency toward impulsive or irresponsible behavior, easy fatigue, dizziness, headaches, decreased concentration and attention, and memory deficits, especially short-term deficits. There is additionally decreased tolerance to noise and light, and disturbances in sleep, sexual behavior, and interpersonal relationships are frequent. Family life is often affected by these symptoms.[22] Many of these patients deny the implications of their symptoms and persist at attempting to return to work and socializing, with marginal results.[21]

The origin of these symptoms is not fully understood and may be multifactorial. Evidence for subtle cerebral dysfunction after mild head injury comes from a number of sources, including autopsy studies (which have identified microscopic lesions), magnetic resonance imaging (MRI), and electrophysiological studies.[11,24] Neuropsychological studies also confirm the presence of cerebral dysfunction after mild head injury.[25] It has been suggested that preinjury personality or emotional problems may result in persistence of postconcussive symptoms, but many patients without previous psychiatric problems develop these symptoms. Likewise, litigation and the potential for financial gain may contribute to the presentation and persistence of these symptoms in some situations, but these factors are not operative in most cases.[26]

A recent study found that 34 percent of previously employed individuals were not working three months after sustaining a mild brain injury, an indication of the morbidity related to this problem.[26]

Management of these patients should ideally include early neuropsychological assessment, patient and family education about the expected course of recovery, gradual resumption of family and job responsibilities, and regular follow-ups as needed. Assuming too many responsibilities too soon may lead to aggravation of the postconcussive syndrome and prolonged difficulties.

The mood disorders often seen clinically in postcon-

cussive symptom patients, especially depression, can be puzzling to clinicians. Depression is generally thought of as part of the secondary psychological reactions to diminished capacity to deal with everyday tasks. However, there is evidence from the stroke literature that lateralized brain damage is associated with mood disorders.[27] Researchers have speculated that these mood disturbances are a result of alteration in neurotransmitters in the brain, and this may also be the case with head injury. Psychological reactions can interact with these proposed biological changes to further compound a patient's adjustment. Lastly, premorbid factors seem to affect emergence of these symptoms.[28]

Age at Injury

The developmental stage of patients is also a factor in the outcome of head injury. Recent research literature consistently points out that the earlier the head injury occurs, the more effect it has on the entire unfolding development of the patient. Especially in adolescence and early adulthood, young persons are attempting to establish identities separate from their parents. They frequently have rituals and rites that label them as part of their peer group. They have yet to firmly establish occupational, sexual, and community identities. Head injury drastically complicates that adjustment.[29]

Older persons with head injury also present special problems. Some estimates put the rate of admission for traumatic brain injury in the elderly at 10 to 13 percent of the head-injured population.[9] Persons 50 years old and older have incipient impairment of the senses; for example, hearing difficulties increase and vision becomes poorer, especially at night. Older persons (over 65) also frequently show some changes in memory and learning capacity, especially if they are not in an occupation where they need to continue to learn new material. In one review of 26 elderly patients admitted to a rehabilitation hospital, 85 percent of them went home and half were independent in daily living skills. Although 12 had been employed full-time or part-time before head injury, none returned to work by follow-up two to five years after discharge. All reported difficulty ranging from mild short-term memory loss to problems requiring total nursing care.[9]

While the information on older patients and head injury in long-term outcome is still preliminary, clinically it has been observed that many of these patients show a decline in cognitive function greater than that expected by the head injury.

At times it is suspected the patient's accident may have been a consequence of poor judgment and sensory failure in existence before the head injury. There is some evidence in the orthopedic literature that the cognitive status of patients over 75 years of age admitted to a hospital for hip fractures was impaired even though they had sustained no head injury.[30]

Therapies and Treatments

Reviewing the literature for recommended therapies and treatments following head injury is an exhausting and frustrating chore. The literature is primarily experiential, with few or equivocal results documented in controlled scientific studies. Thus, the following review presents a smorgasbord of possibilities available to the head injured, along with some commentary as to who might profit from these interventions.

Behavioral therapies The behavioral therapies derive from the theory that the frequency of some behaviors can be increased or decreased systematically by reinforcement procedures. They have been used with some success on inpatient units for disruptive behaviors and poor compliance with the rehabilitation program.[19] Their application to the home environment appears to be limited. Families often are not equipped educationally or emotionally to handle behavioral problems with detachment and record keeping.

Cognitive remediation Cognitive remediation or cognitive rehabilitation derives from the idea that the brain is an organ like a muscle and can be exercised. The concepts that the brain has duplicative parts and that one area can be trained to take over the function of another area are sometimes implied. Under this heading, straightforward compensatory strategies are also included. Thus, patients with memory and learning deficits are often referred to speech-language pathologists and psychologists skilled at assisting patients in relearning and learning strategies to enhance functioning. Some patients seem to profit from these interventions and, if they can generalize the strategies, genuinely improve. Clinically, memory functions, as assessed on standardized tasks, also are often improved, although without scientifically controlled studies, spontaneous recovery is difficult to separate from gains made through training and therapy.[19,31] Compensatory strategies as simple as using a tape recorder in school classes or business meetings, keeping a notebook of scheduled events, and wearing a programmable watch for reminders all have their place.

Some therapists use home computer systems with patients and give them self-paced remediation programs. Younger patients with a better education and some familiarity with computers seem to profit from these efforts. Patients with little formal education and older patients often find the concept of retraining puzzling and may need a more situational approach; for example, a laborer or house painter with memory pro-

blems may need to return to the job and receive specific instructions and cuing as to his responsibilities.

Psychosocial programs The preinjury profile of the young trauma patient often includes a history of alcohol and drug abuse, inadequate education, impaired occupational functioning, and social deficits. These may compound the interpersonal problems related to the neuropsychological impact of the injury. Attainment of social and occupational adequacy often requires a multidisciplinary approach. In many cases, "habilitation" is being attempted rather than rehabilitation.

A major problem in Maryland is that most of the psychosocial programs are clustered in Baltimore County. There is a pressing need for services on the Eastern Shore, in Western Maryland, and in Montgomery County. Funding of such programs is difficult to obtain privately, and many patients with head injuries do not have adequate (or any) insurance coverage.

Family therapy As previously indicated, families are usually involved with patients during their recovery. Families have a pressing need for information, support, reassurance, and guidance through the long, arduous postacute phase of head injury. Once the major medical crisis is past, there are feelings of relief, often followed by dismay at the level of dysfunction the injured person experiences. Patients may become self-centered, impulsive, irritable, and rigid. Changes in sexual interest or performance are common. As injuries often strike the family breadwinner, changes in family leadership roles may occur. In the first week after the injury, relatives are often grateful for the survival of their spouse or child and encouraged by his or her physical recovery. As patients return home and the extent of their persisting interpersonal changes becomes evident, the problems experienced by relatives may become more prominent. A recent study has documented that a significant portion of relatives of severely injured men suffer from clinically significant anxiety as well as poor functioning in the marriage and family context.[19] Family members of severely injured patients often require continued support after relatives return home from the hospital. Support groups for family members of head-injured patients can be extremely helpful in this regard. The primary care physician may assist family members in adjusting expectations for the patient and remind family members of the need to maintain their own health and morale in order to cope with this difficult situation. Development of the physician/family relationship may result in more ready acceptance of a referral for formal psychotherapy, marital counseling, or psychoactive medication if indicated.

Individual psychotherapy The patient may be aware of his or her difficulties, and at times individual therapy may afford the patient a face-saving way to discuss change. A number of patients who stoutly deny problems in front of their families are able to review their situation once they are not pressured. Unfortunately, insight into disability can be devastating, especially to patients who are limited in the ability to organize and plan for the future. If, however, patients are encouraged in day-to-day problem solving, they can improve. Denial as a psychological defense is usually inadequate since it permits no discussion, compromise, or solutions to problems. When denial becomes inadequate, patients may become depressed. Persistent posthead-injury depression appears to respond to the same treatments as any other depression; rapid treatment is recommended to limit psychological suffering and experiences of failure caused by disabling symptoms.[28]

Drug therapies Behavioral problems are not infrequent in the head-injured population and in some cases are caused by an underlying traumatic epilepsy. The likelihood of developing posttraumatic seizures is increased if a penetrating head injury such as a gunshot wound has occurred. Patients who begin to experience episodes of violence or other temper outbursts need to be referred to a behavioral neurologist for evaluation.[28] Neuropsychological evaluation is also frequently helpful to clarify the extent of damage. It has been noted clinically that patients with histories of violence have more trouble controlling their impulses after head injury but frequently show no evidence of true seizures. Behavioral interventions may sometimes be useful in this group.

Vocational rehabilitation One important index of morbidity following traumatic brain injury is employability. Traumatic brain injury tends to occur most frequently in youth, a prime time for vocation productivity. Factors relating to an individual's likelihood of returning to work are multiple, complex, and interactive. Injury severity has a major impact, with less severely injured patients more likely to achieve satisfactory vocational readjustment.[18] Age also has a major influence: younger individuals are more likely to return to work. Gross physical handicaps are an obvious impediment to good vocational outcome, as are significant persistent cognitive and emotional problems. Patients with higher premorbid intellectual skills and occupations tend to fare better, possibly due to their range of skills and motivational factors. Previous character problems appear to reduce the likelihood of good vocational adjustment. Individuals without a stable employment or academic history prior to their injury are unlikely to develop a stable vocational adjustment pattern after injury.[32] Finally, factors such as current economic conditions and willingness or ability of employers to accommodate to circumstances presented by disability may have a bearing on postinjury employability.

Reliable figures regarding the probability of return to work after traumatic brain injury are difficult to obtain. A recent study of patients with mild traumatic brain injury found that roughly one third of previously employed patients had not returned to work three months after injury.[23] It is assumed that most individuals with mild traumatic brain injuries eventually

return to work, though this never has been studied in great detail. Studies of severely injured patients have tended to include follow-up periods of several years. A recent review of several studies of severely injured patients followed for periods ranging from one to forty years found that the rate of return to work varied from 50 to 90 percent.[32] Many individuals who did return to work were in downgraded positions. The longer a person remains unemployed after a severe brain injury, the less likely the possibility of employment.

Patients can be assisted in the long-term return to work by the Department of Vocational Rehabilitation (DVR), which has become more aware of the needs of head-injured individuals and has initiated a referral service for the head injured.

The DVR offers work evaluations to determine strengths and weaknesses following head injury. Patients can be referred from 16 years of age on, so high-school-aged head injured can be monitored and evaluated before they graduate. The state is divided into regions; contact for services is usually made through one of the regional offices. Most evaluations are conducted at the Maryland Rehabilitation Center in Baltimore.

In less severe cases, in which the individual can return to work but needs assistance, the DVR can mediate between employer and employee in changing hours or conditions of employment. Some tax benefits are available to employers who hire the handicapped (including the head injured), which can assist a willing individual to gain entry level employment.

The Role of the Community Physician

The community physician confronted by the multiple problems of the head-injured patient might be frustrated by the complexity of assessment and treatment. Working with these patients usually requires a shift from a purely medical model to a psychosocial mode. Their rehabilitation typically requires multiple disciplines, and the busy physician may find it difficult to maintain communication channels. On the other hand, community physicians often have the trust of the families who come to them are therefore in a unique position to influence the life of a head-injured person and his or her family. Recognizing the head injury as a cause of social, emotional, and physical difficulty may be the first task of the physician, since, especially in milder cases, families and patients may not recognize the cause of the patient's problem. The following are suggestions for routine assessment:

1. Clinicians should ask patients if they have a history of traumatic head injury with or without a loss of consciousness. Usually some information as to pre- and post-traumatic amnesia is helpful prognostically.

2. Changes in personality, work habits, and emotional lability as well as changes in sleeping, eating, and sexual behavior should be assessed. In historically dysfunctional patients, exaggeration of preinjury deficiencies needs to be assessed. History should be obtained not only from the patient but also from a family member or significant other, since patients may have no insight into their condition.

3. Once a positive history is obtained, information from the treating hospital should be reviewed. Information on head injury suitable for families and patients is available from the Maryland Head Injury Foundation and is helpful in educating families and patients. When referral for specific specialized service is indicated, the primary care physician can serve a vital coordinating role.

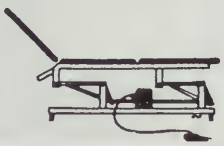
Rehabilitation is a long process and the physician, patient, and family need to keep in mind that progress may be slow. It is important to keep treatment goals in the forefront so stagnation and discouragement do not occur.

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Semiannual Session House of Delegates (329th Meeting)
Medical and Chirurgical Faculty of Maryland
Friday, September 15, 1989
Sheraton Resort and Conference Center, Ocean City

The 329th meeting of the House of Delegates of the Medical and Chirurgical Faculty of the State of Maryland was called to order at 9:30 a.m., the President, Raymond M. Atkins MD, and Secretary, Harold B. Bob MD, being present.

The following delegates (or alternates) were registered as being in attendance; an asterisk indicates an alternate delegate; (C) denotes Council member:

Allegany County
Augusto F. Figueroa
*Amado P. Torres**

Anne Arundel County
Thomas C. Cullis

Baltimore City
*Ian R. Anderson**
Timothy D. Baker
Willarda V. Edwards
Robert B. Goldstein
*Albert Folgueras**
Rafael C. Haciski
Thomas E. Hunt
Donald W. Mintzer
Hiroshi Nakazawa (C)
Samuel L. O'Mansky
*John B. Mac Gibbon**
Stephen K. Padussis
*Albert Nahum**
Karl H. Weaver
Jack M. Zimmerman

Baltimore County
Louis C. Breschi (C)
John W. Buckley
Esther Edery
John M. Krager

Cecil County
Andrew P. Fridberg (C)

Charles County
Guillermo E. Sanchez

Dorchester County
Paul A. Stagg (C)

Frederick County
Fred J. Baker

Harford County
Ben E. Oteyza

Howard County
Charles E. Taylor

Montgomery County
Carol L. Bender
DeWitt E. DeLawter
Charles H. Ligon
Ralph E. Longway
Herman C. Maganzini
Margaret T. Snow
*Eugene K. Sussman**

Prince George's County
Nelson Goodman
John E. Jeffery
Zorayda M. Lee-Llacer
George Malouf, Jr.
Robert Ruderman

Queen Anne's County
John R. Smith, Jr. (C)

Washington County
Edward W. Ditto
*Wayne A. McWilliams**

Wicomico County
Alex Azar (C)*
Hilda I. Houlihan
Paul S. Kajencki
Aubrey C. Smoot, Jr.
Farouk A. Sultani

Council
Albert M. Antlitz
Raymond M. Atkins
Harold B. Bob
Louis C. Breschi
Benjamin Del Carmen
Donald Dembo
Michael R. Dobridge
Bahram Erfan
Frederick J. Hatem
Francisco G. Japzon
Reynaldo Lee-Llacer
George S. Malouf, Sr.
Francis C. Mayle, Jr.
J. David Nagel
Gary L. Rosenberg
Roland T. Smoot
Joseph Snyder
Israel H. Weiner
Jose M. Yosuico

Past Presidents
Arthur T. Keefe, Jr.

Also present were members of the Faculty staff.

Invocation

Dr. David W. Fricke, a member of the Committee on Medicine and Religion, delivered the invocation.

Dr. Raymond M. Atkins, Faculty President, called for a moment of silence in memory of Dr. W. Bradley King Jr., who died on September 4, 1989.

The President made certain announcements, advising of various rules for conducting House business.

Minutes Approved

The minutes of the meeting of the House of Delegates held on April 12 and April 14, 1989, having been distributed to all members and corrected and approved by the Executive Committee, were presented to the House of Delegates. The House approved the minutes as corrected by the Executive Committee under Special Rule 1.

Media Awards

The President announced the winners of the media awards who will receive a certificate of recognition. The winners are as follows:

Daily Newspaper Category: Maureen Curran of the *Montgomery Journal* for her article, "Treatment Offers Hope Over Bone Deformities."

Magazine and Newspapers Category: Robert Kanigel of *Science Illustrated* for his entry, "Nicotine Becomes Addictive."

Radio and Television Category: Jamie Roberts of WJZ-TV for the series, "Shocked Sober."

Maryland Medical Journal Awards

The President announced the winners of the third annual *Maryland Medical Journal* awards:

Carl I. Schoenberger MD, Jay H. Weiner MD, Frank J. May MD, Jeanne Spellman MD, and Robert G. Waltersdorff PhD for their article, "Acute Pulmonary Histoplasmosis Outbreak following Home Renovation."

Charles Canady MD and co-author Phillip J. Goldstein MD for their article, "Elective Repeat Cesarean Section: Old Controversy, New Concepts."

Award to Allegany Health Right

Certificates of Appreciation were awarded to the creators of Allegany Health Right, a nonprofit organization that provides free health care to people whose incomes are too low to cover costs of health insurance or medical services but too high to be eligible for government aid. Dr. Amada P. Torres and Dr. Augusto F. Figueroa were present to accept the award on behalf of Dr. Wayne C. Spiggle and Allegany Health Right.

Emeritus Membership

Upon motion of the Secretary, Harold B. Bob MD, the following members were elected to Emeritus Membership in the Faculty, each having received the recommendation of their component societies and the Council:

Baltimore City
William Korman MD, Baltimore
Vantana Sadarananda MD, Baltimore

Baltimore County
Seymour Weiner MD, Phoenix

Prince George's County
Philip A. Cox MD, Fredericksburg, VA
Julio C. Quintana MD, Lanham, MD

Council Chairman Report

Dr. David Nagel, Chairman of the Council, reported that the Council, at its meeting on September 14, 1989, had entered into a contract with the law firm of Rifkin, Evans, Silver, and Lamone to provide legal services and legislative representation to the Faculty. He announced there would be a special meeting of the Council on October 19, 1989 to address the "white papers" and the involvement of the physicians in Maryland in the peer review process.

Treasurer's Report

Jose M. Yosuico MD, Faculty Treasurer, read the Certificate of O'Dea and Labrador, CPAs, as to the accuracy of the Faculty's books and records for the 1988 calendar year and an opportunity was given for questions. The House, by unanimous consent, approved the auditor's certification.

1988-1989 Committee Reports

An opportunity was afforded to raise questions or make comments on the following 1988-1989 committee reports, which had been distributed in writing to all members for information.

Report of the Delegates to the AMA -Albert M. Antlitz MD, Roland T. Smoot MD, Donald T. Lewers MD, George S. Malouf MD, Charles F. O'Donnell MD, Michael R. Dobridge MD (Interim Meeting, December 4-7, 1988)

Committee on Aids - Gabriel B. Jaffe MD, Chairman, Margaret T. Snow MD, Chairman

Committee on Alcoholism and Chemical Dependency - N. Joseph Gagliardi MD, Chairman

Report of AMA-ERF - Elizabeth A. Linhardt, State Chairman

Report of the Auxiliary - Mrs. Eva M. Edmonds, President

Computers in Medicine Committee - H.G. Oster MD, Chairman

Committee on Continuing Medical Education Review - Eugene P. Libre MD, Chairman

Committee on Drugs - Nelson G. Goodman MD, Chairman

Committee on Emergency Medical Services - Peter M. Fahrney MD, Chairman

Executive Director - Angelo J. Troisi, FACHE

Finance Committee - Jose M. Yosuico MD, Chairman, Treasurer

Committee on Hospital Medical Staffs - Victor R. Hrehorovich MD, Chairman

Legislative Committee - Nelson G. Goodman MD, Co-Chairman, Susan Guarnieri MD, Co-Chairman, Leonard Lichtenfeld MD, Co-Chairman, Israel H. Weiner MD, Co-Chairman

Liaison Committee with Department of Health and Mental Hygiene - Karl M. Green MD, Chairman

Library and History Committee - Nancy T. Nichols MD, Chairman

Long Term Care and Geriatrics Committee - George Taler MD, Chairman

Managed Care and Third Party Liaison Committee - Aristides C. Alevizatos MD, Chairman

Maryland Medical Journal - Victor R. Hrehorovich MD, Editor, Henry P. Laughlin MD, Associate Editor

Med Chi Insurance Fund - W. Kenneth Mansfield MD, Chairman

Medicine and Religion Committee - Leslie R. Miles, Jr. MD, Chairman

Medicolegal Committee - Lawrence D. Pinkner MD, Chairman
Committee on Mental Health - Jeanne S. Kraus MD, Co-Chairman, Carol C. Kleinman MD, Co-Chairman
Music Medicine Clearinghouse Advisory Board - Melissa McDiarmid MD, Chairman
Occupational Health Committee - Michael K. Spodak MD, Chairman
Peer Review Committee - Emidio A. Bianco MD, Chairman
Physician/Patient Relations Committee - Lois E. Wehren MD, Chairman
Committee on Physician Rehabilitation - Edward J. Kitlowski MD, Chairman
Committee on Professional Ethics - Louis C. Breschi MD, Chairman
PRO Monitoring Committee - John A. Singer MD, Chairman
Public Health Committee - Herman C. Maganzini MD, Chairman
Public Relations Committee - William A. Cassidy MD, Chairman
Committee on Scientific Activity - Gary L. Rosenberg MD, Chairman
Committee on Small Area Practice Variation - Peter E. Dans MD, Chairman
Committee on Specialist Identification - Joseph I. Berman MD, Chairman
Women in Medicine Ad Hoc Committee - Margaret T. Snow MD, Chairman
Committee on Young Physicians - Susan W. Owens MD, Chairman
Treasurer - Jose M. Yosuico MD

Memorial Resolution

The Secretary, Dr. Harold Bob, read the following memorial resolution on Dr. Walter D. DeVault, Jr., which was adopted unanimously:

Walter D. De Vault, Jr. MD
1930 - 1989

Whereas, Walter D. DeVault MD, born in Knoxville, Tennessee, in 1930, received his medical degree from the Columbia College of Physicians and Surgeons in New York, interned at the University of California Medical Center in Los Angeles, and served his residency in the Urology Department at the University of Virginia Hosptial;
Whereas, He began his practice of medicine in Salisbury as a urological surgeon in 1962;
Whereas, Dr. DeVault then served with pride and enthusiasm as a member of the Department of Surgery, Division of Urology, at Peninsula General Hospital Medical Center untit 1982;
Whereas, He thereafter shared his skills and humanitarian interests while practicing urological surgery in Khamis, Saudi Arabia, and in Reshawav, Pakistan, working with Afghanistan refugees and giving testimony to the highest ideals of the healing arts;
Whereas, He enjoyed memberships in numerous professional, scholastic, and sportsmen organizations;
Whereas, Dr. DeVault served with dedication as a member of the Wicomico County Medical Society and the Medical and Chirurgical Faculty of Maryland, of which he was an Emeritus Member;
Whereas, He will be remembered for his irrepressible wit, his indomitable spirit, and as an inspiration to all who knew him, and his courage and humor are a legacy that will be cherished; and
Whereas, His death will leave a very real void in the lives of his family, friends, former patients, and colleagues; therefore, be it
Resolved, That this House of Delegates of the Medical and Chirurgical Faculty on September 15, 1989 adopts this resolution with an expression of profound sorrow on the death of Dr. DeVault; and be it further
Resolved, That this resolution be spread upon the minutes of this meeting and a copy be sent to his wife, Mrs. Sonnie Ford DeVault, in recognition of the high esteem in which Dr. DeVault was held and will be remembered.

Maryland Foundation for Health Care Election

The Secretary read the following list of nominations submitted for election to the Board of Directors of the Maryland Foundation for Health Care:

Baltimore City District (1992)
Paul Bormel MD, U, Baltimore City
Jack M. Zimmerman MD, GS, Baltimore City

Baltimore County District (1992)
Roger Theodore MD, GS, Baltimore County

Montgomery County District (1990)
James A. Rossi MD, IM, Montgomery County
(to fill vacancy due to resignation of Dr. Stanley Kirson)

Prince George's County District (1992)
Robert Ruderman MD, IM, Prince George's County

Western District (1992)
Walid S. Hijab MD, CD, Allegany County

The floor was opened for nominations. Dr. Louis H. Himes, II, Wicomico County, was nominated for the 3-year term in the Eastern District and Dr. Paul E. Pritchett, Charles County, was nominated for the 3-year term in the Southern District. Nominations were declared closed by general consent.

There being no contest of any position, the candidates were declared elected by acclamation.

Bylaws Committee Report

The President advised the members of the House that the "consent calendar" procedure would be used for the report of the Bylaws Committee. Following a review of the issues of the report by Dr. Karl H. Weaver, Chairman of the Bylaws Committee, Items 1 and 8 were extracted for discussion.

Dr. Weaver, on behalf of the Bylaws Committee, moved adoption of bylaw amendments, **Items 2,3,4,5, and 7** of the report, which were **adopted unanimously** as follows:

2. Proposed Bylaw Amendment to Clarify Terms of Office on Council

- Rationale: To more clearly define the term of office of the members of Council by including the term of the representative of the newly established Committee on Specialty Societies.
- Amend Article IV (Officers), Section 6, following the words "Councilors shall hold office for a term of three years," and before the words "or until their successors are elected," by inserting the words "with the exception of the representative of the Committee on Specialty Societies who shall serve for a term of one year,..."

3. Proposed Bylaw Amendment to the AMA Delegation

- Rationale: To clarify the seating of delegates to the AMA by deleting the word "THEIR" in the title.
- Amend Article XI (Committees), Section 6, following the words "AT LEAST TWO OF THE DELEGATES AND" and before the words "ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION" by deleting the word "THEIR."

4. Proposed Bylaw Amendment to Editorial Board

- Rationale: To more clearly define the responsibilities of the Editorial Board.
- Amend Article XI (Committees), Section 8 (Editorial Board), by inserting the following new Section 8:

Section 8. There shall be an EDITORIAL BOARD of the *Maryland Medical Journal* composed of the Editor, appointed by the Council for a three-year term or until a successor is appointed; an Associate Editor designated by the President from the board members for a three-year term or until a successor is appointed; and six members, two of whom shall be appointed by the President each year for a three-year term. The Board shall review and accept papers for publication in the *Maryland Medical Journal* in accordance with the objectives as approved by Council. The Board shall periodically review its goals/purposes of publication for Council review and approval, and shall report to the Council at appropriate intervals.

5. Proposed Bylaw Amendment to the Committee on Medicine and Religion

- Rationale: To include the appointment of the Chairman by the President.
- Amend Article XI (Committees), Section 18 (Medicine and Religion Committee), following the first sentence, by inserting the words "The President shall designate the Chairman."

7. Proposed Bylaw Amendment to the Public Relations Committee

- Rationale: To include as a function of the committee the responsibility to work with the media in enhancing the public image of the physician.
- Amend Article XI (Committees), Section 30 (Public Relations Committee), in the first sentence, following the words "members shall undertake to" by inserting the words "enhance the image of the physicians;..."

Dr. Weaver, on behalf of the Bylaws Committee, moved adoption of the following bylaw amendment, Item 1 of the report, which after debate, was **rejected** by a vote of 28 in the negative and 19 in the affirmative:

1. Proposed Bylaw Amendment regarding Associate Members

- Rationale: Proposed bylaw amendment to define more clearly the voting rights of associate members of the Faculty.
- Amend Article II (Membership), Section 2(c) (Associate Members), following the words "may be appointed to serve on" and before the words "on committees of the Faculty" by inserting the words "the Faculty's Council, without vote, and... ."

Dr. Weaver, on behalf of the Bylaws Committee, recommended adoption of Item 6 of the report, which, after debate and rejecton of an amendment, was **adopted** by the required 2/3 vote:

6. Proposed Bylaw Amendment to Establish the Peer Review Management Committee

- Rationale: To establish the present Ad Hoc Committee on Peer Review Management as a full standing committee on the Faculty.

- Amend Article XI (Committees), by inserting the following new Section 24, subsequent sections automatically being redesignated:

Section 24. A PEER REVIEW MANAGEMENT COMMITTEE (PRMC) shall consist of not less than nine members and may be selected from nominees submitted by component societies. Appointments shall be based on the nominees' experience on a medical review committee. The Chairman and members shall be appointed by the President. The Chairman or his designee may serve in an ex-officio capacity on the Board of Physician Quality Assurance. It shall be the duty of the committee to receive and record cases referred by the Board of Physician Quality Assurance; to identify the guidelines to be used in conducting reviews; refer cases to the appropriate Med Chi committee, component, specialty society or regional committee; to monitor the status of each case; to review reports received from investigating committees to determine adequacy of the review and the report and either transmit the report to the Board of Physician Quality Assurance or return it to the investigating committee with any inadequacies specified. Further, it shall be the duty of this committee to provide educational programs throughout Maryland to emphasize the elements of peer review; to provide organizational assistance to any review committee in Maryland; and to gather, analyze, and report statistical information annually for use by the Board of Physician Quality Assurance, Med Chi, and component societies in evaluating and upgrading the peer review process.

Item 8 of the Bylaws Committee Report had been recommitted to the Bylaws Committee by the House of Delegates on April 12, 1989. On behalf of the Bylaws Committee, Dr. Weaver moved adoption of the committee's recommendation contained in the report, which, after debate and amendment to the portion of the report pertaining to the Liaison Committee with the Department of Health and Mental Hygiene, Item 8 was adopted by the required 2/3 vote of the House as follows:

8. Proposed Bylaw Amendment to Public Health Committee

- Rationale: To reorganize the Committee on Public Health to empower it to function as the primary committee within Med Chi to evaluate and act upon all social and economic aspects of medical care relating to public health. To accomplish this, the following committees would be redesignated as subcommittees within the auspices of the primary Committee on Public Health:

  Committee on Aids
  Committee on Alcoholism and Chemical Dependency
  Subcommittee on Child and Adolescent Health and Welfare
  Subcommittee on Immunology and Infectious Diseases
  Liaison Committee with the Department of Health and Mental Hygiene
  Committee on Long Term Care and Geriatrics
  Subcommittee on Maternal Health and Welfare
  Committee on Mental Health
  Committee on Occupational Health
  Subcommittee on Sports Medicine

The House of Delegates at its meeting on April 12, 1989 recommitted this proposed bylaw amendment to the Bylaws Committee for further consideration. In the interim, a meeting was held by the Committee on Public Health and their recommendations were submitted to the Bylaws Committee. Following review of this additional information, the Bylaws Committee developed the following motions, each of which will be addressed individually:

(a) The Bylaws Committee rejected the concept of establishing one umbrella Public Health Committee with ten subordinate committees.

(b) For clarification purposes, the Bylaws Committee recommends that the existing structure of the Committee on Public Health be maintained as currently organized with its four subcommittees:

  Subcommittee on Child and Adolescent Health and Welfare
  Subcommittee on Immunology and Infectious Diseases
  Subcommittee on Maternal Health and Welfare
  Subcommittee on Sports Medicine

(c) The following Proposed Bylaw Amendment to the Liaison Committee with the Department of Health and Mental Hygiene is herewith presented:

- Rationale: To clarify this committee's responsibility as focusing on the Medical Assistance Program and not as liaison with the Department of Health and Mental Hygiene as this is the purpose of the Public Health Committee.
- Amend Article XI (Committees), Section 14 (Liaison Committee with the Department of Health and Mental Hygiene) by striking it in its entirety and inserting the following new Section 14:

Section 14. A LIAISON COMMITTEE WITH MEDICAL ASSISTANCE PROGRAM of at least five members shall maintain continuous liaison with the Medical Assistance Program, the payments made under such programs to providers of health care services, and all other facets of operation of this program. It shall act as a consultant to the Medical Assistance Program in evaluating the quality of care, experimental programs involving alternative methods of delivery of care and any other area wherein improvement of health services provided to Medical Assistance patients may be undertaken. The President shall appoint the Chairman and members of the committee.

Resolution 1S/89 - Use of Steriods ADOPTED

Dr. Aubrey Smoot, on behalf of the Reference Committee, moved adoption of the following Resolution 1S/89, which was adopted unanimously by the House:

Resolution 1S/89 - Subject: Condemnation of Use of Anabolic Steroids in Enhancement of Athletic Performance

Whereas, The use of anabolic steroids to enhance athletic performance is fraught with danger to the health of the user;
Whereas, That the use of such steroids creates an unfair competitive advantage and encourages use of these substances by other competitors; and
Whereas, Anabolic steroids can be used safely under medical supervision and have an accepted use in the treatment of several medical conditions, including certain anemias, hereditary angioedema, and breast cancer; therefore, be it
Resolved, That the Medical and Chirurgical Faculty of Maryland hereby universally and unequivocally condemns the use of anabolic steroids to enhance athletic performance;
Resolved, That anabolic steroids be used only under the prescription of a licensed physicians for medically indicated purposes; and be it further
Resolved, That the Medical and Chirurgical Faculty work with the office of the Governor, as well as with the state legislature in all efforts to endorse educational activities aimed at appropriate interested individuals such as sports group administrators, coaches, trainers, parents, and athletes to curb the non-medical use of anabolic steroids.

Resolution 2S/89 - Medicare Care Review, ADOPTED

Dr. Aubrey Smoot, on behalf of the Reference Committee, moved adoption of the following Resolution 2S/89, which was adopted unanimously:

Resolution 2S/89 - Subject: Medical Care Review

Whereas, The physicians of the State of Maryland are under continuous pressures to reduce the average lengths of stay of hospitalized patients, not only by the hospitals, but also from the numerous government agencies;
Whereas, The physicians of the State of Maryland are under continuous surveillance by third-party payors; Medicare, through its PRO, and the State of Maryland through its Medicaid contract;
Whereas, We are living in a litigious society in which any adverse or negative results are continually scrutinized by lawyers specializing in malpractice;
Whereas, The Health Care Financing Administration (HCFA) has devised a system of staging quality problems by levels of severity; and
Whereas, HCFA has labeled the level of severity as "medical mismanagement" whether or not it involves physician mismanagement;
Whereas, HCFA intends to mail letters concerning quality of care directly to the patients which could result in increasing the possibility of litigation; therefore, be it
Resolved, That the Medical and Chirurgical Faculty of Maryland strongly condemns HCFA's system of nomenclature because it would encourage an increase in law suits by *de facto* underwriting of legal decisions without due process of law; and
Resolved, That the Medical and Chirurgical Faculty of Maryland encourages "medical care review" for the purpose of improving the medical care of our state residents, but that this review process be one of education and rehabilitation, rather than the destructive process of encouraging litigation, which it condemns; and be it further
Resolved, That the Medical and Chirurgical Faculty of Maryland which represents all physicians in the State of Maryland and the state-of-the-art of medicine in Maryland, consult with the PRO (Delmarva Foundation for Medical Care) in order to clarify these issues so that the end result would not be to compound the malpractice crisis.

Report on Late Resolution

Dr. Gary Rosenberg, Chairman of Ad Hoc Committee to Review Late Resolution 5A/89, on behalf of the committee, presented the following substitute resolution 5A/89, which, after debate and amendment, was adopted by the required 2/3 vote:

5A/89 - ADOPTED, as Amended

Whereas, There are major forces in the delivery of health care in Maryland, which are denying the patient the right to free choice; and
Whereas, The Federal Government has expanded its role in health care delivery by expanding the interpretations of the intent of the laws, without benefit of consultation with those delivering the care; and
Whereas, A steady decline in the quality of health care adversely affecting eligible Medicare enrollees is anticipated, while the costs are being caused to rise due to increasing administrative expenditures; therefore be it
Resolved, That the Medical and Chirurgical Faculty of Maryland seek the cooperation and support of other statewide professional associations involved with the medical care system, such as the Maryland Hospital Association, the Maryland Nursing Association, and other statewide professional organizations, in order to have greater impact in shaping the medical care system than an individual group could have acting alone; and
Resolved, That these efforts be directed toward enabling physicians and hospitals to continue to deliver quality medical care and ensure access to that care; and, be it further
Resolved, That the Medical and Chirurgical Faculty of Maryland maintain communication with these professional groups in order to foster effective cooperation on issues of common concern.

The Secretary read Resolution 1A/79 with a staff recommendation that it be reaffirmed. Resolution 1A/79 was reaffirmed as follows:

Resolution 1A/79 REAFFIRMED

Resolved, That the House of Delegates of the Medical and Chirurgical Faculty goes on record as urging all health insurance carriers doing business in this State to provide coverage for inpatient, residential and outpatient treatment of alcoholism as a basic benefit in its contracts; and be it
Resolved, That, although it is recognized benefits for alcoholism treatment cannot become a part of the basic benefit insurance package immediately, health insurance carriers are urged to aggressively market the alcoholism treatment benefit option in all policies currently sold in Maryland; and be it
Resolved, That all health insurance carriers be urged to change their procedures so that alcoholism is underwritten as a medical condition;

The Secretary read Resolution 1S/79 with a staff recommendation that it be reaffirmed. Resolution 1S/79 was reaffirmed as follows:

Resolution 1S/79 REAFFIRMED

Resolved, That the Medical and Chirurgical Faculty goes on record as supporting, in principle, any Department of Health and Mental Hygiene proposal to re-allocate Medical Assistance Program funds so as to increase physician reimbursement to the usual, customary, and reasonable rate of private physicians so the system will be competitive and result in total reimbursement, not exceeding the total budgeted dollars.

The Secretary read Resolution 4A/82 with a staff recommendation that it be reaffirmed. Resolution 4A/82 was reaffirmed and reads as follows:

Resolution 4A/82 REAFFIRMED

Resolved, That the House of Delegates of the Medical and Chirurgical Faculty opposes the elimination of these loan programs.

The Secretary read Resolution 1S/82 with a staff recommendation that it be reaffirmed. On vote, Resolution 1S/82 was reaffirmed as follows:

Resolution 1S/82 REAFFIRMED

Resolved, That the Medical and Chirurgical Faculty urges that a program of providing Hepatitis B vaccine be instituted in all medical facilities in Maryland for those individuals at high risk; and be it further
Resolved, That all such institutions in Maryland be notified of this action.

The Secretary read Resolution 2S/82 with a staff recommendation that it be reaffirmed. Resolution 2S/82 was reaffirmed as follows:

Resolution 2S/82 REAFFIRMED

Resolved, That utilization review should be directed toward detecting and eliminating unnecessary periods of hospitalization and should not serve the function of rationing necessary health care when insurers - governmental or otherwise - fail to fulfill their financial obligations; and, be it further
Resolved, That mandatory preadmission authorization is opposed since it creates yet another level of bureaucracy which will create additional expense and shows little or no evidence of lessening health care costs.

The Secretary read a resolution (1983 unnumbered) with a staff recommendation that it be reaffirmed. The resolution was reaffirmed as follows:

1983 (Unnumbered) Resolution REAFFIRMED

Resolved, That the House of Delegates adopt a policy requiring that a review of all policy decisions be undertaken ten years after adoption of such policy to assure it is still current, should be revised, should be repealed, or that no action is necessary because the objectives have already been accomplished; and
(Revised by motion adopted by House of Delegates on 9/24/88 for more frequent review of resolutions.)

The Secretary read a Resolution (1984 unnumbered) with a staff recommendation that it be reaffirmed.

1984 (Unnumbered) Resolution - NO ACTION

Resolved, That, in recognition of 25 years of service, the Medical and Chirurgical Faculty place and accumulate funds for a Medical Scholarship Program to be designated The John Sargeant Medical Scholarship which will become operational at the time of Mr. Sargeant's retirement.

Dr. George Malouf, Chairman of the Ad Hoc Building Committee, stated that upon the death of Mr. Sargeant, his widow had requested that the funds be donated to the Building Fund, and moved that no action be taken on this resolution. The motion to take no action on the resolution was adopted unanimously.

The Secretary read Resolution 1A/84 with a staff recommendation that it be reaffirmed. Resolution 1A/84 was reaffirmed as follows:

Resolution 1A/84 REAFFIRMED

Resolved, That members of the Medical and Chirurgical Faculty of the State of Maryland pledge themselves to ensure the highest quality of medical care to all Maryland citizens at a cost that is reasonable and appropriate while always remaining vigilant to every opportunity for containment of health care costs, as well as for instances where courtesy and charity can be given in a dignified and appropriate manner.

Though "no action" had been recommended on Resolution 1S/84, upon motion by Dr. Charles Ligon of Montgomery County, the second resolving clause of Resolution 1S/84 was reaffirmed:

Resolution 1S/84 REAFFIRMED

Resolved, That horseback riders be encouraged to wear headgear at all times when they are involved in this activity.

The Secretary read Resolution 2S/84 with a staff recommendation that it be affirmed. On vote, Resolution 2S/84 was reaffirmed as follows:

Resolution 2S/84 REAFFIRMED

Resolved, That all Maryland physicians pledge their continuance of the highest quality of medical care to all patients.

Dr. Robert Ruderman, on behalf of the Prince George's County Medical Society, introduced a resolution, which was referred to the Legislative Committee for consideration:

Resolution REFERRED

Whereas we can now recognize that among our biggest adver-

saries in health care delivery are the insurance companies themselves;
Whereas, These companies have consistently operated without controls, frequently distorting their actual earnings by adding and subtracting coverage, so that actual comparisons are impossible;
Whereas, Full understanding by the patients of coverage is often impossible due to technical terminology; and
Whereas, Demands are often made on physicians, by them with the sole purpose of delaying or denying the coverage; therefore be it
Resolved, That the Med Chi Council go on record as favoring an omnibus insurance bill that would include:
1. Requirement that Insurance Companies pay for mandated second opinions and other mandated services.
2. Establishing minimum standards of education and training for medical claim technicians.
3. Establishing a "truth in insuring" law that would require all benefits and exclusion be outlined in nonlegal vernacular form in both English and Spanish with co-pays and deductible clearly defined.
4. Requirement that companies clearly state incentives to physicians who save the company money.
5. Requirement that insurance companies pay for laboratory testing by a noncontractual laboratory or physician if that lab or physician is willing to accept the same payment as the contracted lab.
6. A penalty to any insurance broker in the State who sells insurance of a company not approved by the Insurance Commission.
7. Requirement for a Bond by a company selling malpractice or liability insurance, which would be kept it a special fund and be surrendered if the company were to decide to leave the State under circumstances not approved by the Insurance Commission.
8. Establishing a medical advisory board to the Workman's Compensation Board that would recommend changes to the present and future policies concerning disability, professional compensation, etc.; and be it further
Resolved, That this resolution be sent to Governor William Donald Schaefer to show Med Chi's commitment to excellence in health care.

Dr. Robert Ruderman, on behalf of the Prince George's County Medical Society introduced a resolution, which after a lengthy debate and several motions to amend, a motion was adopted by the required 2/3 vote to refer the resolution to the Legislative Committee. It was recommended that the Legislative Committee modify the inflammatory language in the resolution, which reads as follows:

Resolution REFERRED

Whereas, Medicine has traditionally felt a moral obligation to care for indigent people;
Whereas, We continue this tradition even at the present time, despite a lowering of Medicaid payments to hospitals and practitioners;
Whereas, Many HMO type insurance companies were given outright grants by the Federal Government to start and successfully continue these alternative forms of care; and
Whereas, Taxpayer money was used in these grants, without any payback expected to the government; therefore be it
Resolved, That the HMO insurance companies assume the moral responsibility of sharing in the care of the indigent population, by insuring some people without charging premiums;
Resolved, That the indemnity companies also share in this responsibility in order to thank the State of Maryland for the opportunity to reap larger profits by doing business here; and be it further
Resolved, That this resolution be sent to Governor William Donald Schaefer to demonstrate the commitment of the Medical and Chirurgical Faculty of the State of Maryland by developing ways and means for the Insurance Industry and others to help share the burden of indigent care in the State of Maryland.

Adjournment

There being no further business to come before the House of Delegates, without objection, the House adjourned *sine die* at 11:37 a.m.

HAROLD B. BOB MD, Secretary

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Delegation to the AMA House of Delegates
Annual Meeting June 18-22, 1989

Mr. President and Members of the House of Delegates:

The AMA House of Delegates met in Chicago and seated 435 delegates:

347	delegates representing state medical associations
78	delegates representing national medical specialty societies
10	section and service delegates representing medical students, medical schools, resident physicians, hospital medical staffs, young physicians, Army, Navy, Air Force, United States Public Health Service, and the Veterans Administration

The applications of two specialty societies were approved by the House at this meeting:
1. American Society of Hematology
2. Association of University Radiologists

Address of the President

AMA President, James E. Davis MD likened the medical profession to a symphony orchestra. He said "the ultimate success of American medicine depends on all physicians in America realizing that—as diverse as we are individually, by specialty, and in terms of the many different ways we serve our communities back home—we must work together." Dr. Davis reiterated his call for physicians to make a commitment to community service. He observed that the American people expect physicians to work together for their benefit. He called the AMA the most effective guardian of the public health and the only "maestro" with the capability of pulling American medicine together.

Address of Louis W. Sullivan MD, Secretary, Department of Health and Human Services

In his first appearance before the AMA House of Delegates, Louis W. Sullivan MD, the new Secretary for Health and Human Services, called for "nothing less than a reformation of the American health care system as we know it today." He said the Administration's views on physician payment reform under Medicare included support for a three-part framework: (1) a resource-based fee schedule; (2) an expenditure target for Medicare physician services; and (3) beneficiary protections. He said that fee schedule must be linked to a "volume-control mechanism" such as an expenditure target.

Secretary Sullivan called on physicians to become involved in seeking solutions to America's health care problems. He urged that:

- "We stress the individual's increasing power and primary responsibility for maintaining his or her own health, through health promotion and disease prevention strategies."
- "Through research on the effectiveness of the medical procedures in our therapeutic armamentarium, find out what works and discard that which does not."
- "As a compassionate society, we must address the disparate health status of the poor and our minority citizens."
- "We must work together to find affordable ways to provide health insurance for our 37 million uninsured citizens."

Remarks of James H. Sammons MD, Executive Vice-President

In a rare departure from custom, the Executive Vice-President rose to introduce the EVP Report and address the growing challenge to the American health care system. He said, "If there is anyone who believes that rationing of health care cannot happen in this country, I would tell them to pay attention to what is already happening in Washington this very day. The PPRC, the Congress, and the Bush Bureaucracy are proposing expenditure targets, and we all know what expenditure targets have given to Canadians: (1) long waits for necessary surgery, (2) degrading conditions for elderly hospital patients, and (3) yes, in some cases even premature deaths while waiting in line for an operation." In a call to action, Dr. Sammons urged the House members to call their elected representatives and tell them how expenditure targets (ETs) will affect their constituents. Calling ETs "the biggest challenge the medical profession has had to deal with in our recent memories," Dr. Sammons promised an all-out campaign to warn the American people that expenditure targets mean rationing.

The elections for AMA officers, trustees, and council members were held Wednesday, June 21. Following are the major issues considered at the meeting:

Expenditure Targets As the House Ways and Means Committee began considering expenditure targets while the House was in session, this issue dominated the delegate's attention throughout the meeting. Members of the House and the AMA Auxiliary placed hundreds of telephone calls to their elected representatives and to the Administration objecting to this new proposal to control costs.

Expenditure targets are government-set expenditure goals for total physician services under Medicare Part B. If the targets are exceeded, Medicare physician payment updates to reflect increases in practice costs and changes in patient access will be adjusted downward accordingly across the board.

The purpose of expenditure targets is to reduce the amount of physician services the government pays for. They are designed and justified, by PPRC and others, on the need to reduce the federal deficit.

The concept of targets is wrong in principle. They

will be unworkable and unfair in practice. The targets are said to take into account increased demand and other factors that would increase costs. But it is fatally naive to assume the targets will do that.

The *government*—not the medical profession—will establish the targets. The government's stated first concern for Medicare is to reduce spending to reduce the deficit. The government's record in setting fair reimbursement levels is uniformly bad. In 1984 fees were frozen, in 1986 MAACs were implemented. Since Medicare was established, the MEI has never fully reflected the actual increases in physician costs. There is no basis to believe the government will not continue to be arbitrary about reimbursement levels.

Even if the government were committed to fair targets and had a fair process for physician negotiation and input (there is none proposed), targets cannot be established scientifically, either before or after the services are provided. There simply is no way to measure or prove appropriate increases in demand or appropriate increases in costs from technological advances. The targets will inevitably be arbitrarily low as health care spending competes with other government priorities. That is the experience in Canada and every other country that has capped or targeted government health care expenditures.

After lengthy discussion, the House adopted the following substitute resolution on the issue:

> RESOLVED, That the American Medical Association reaffirm its willingness to participate in efforts to control the cost of Medicare in a manner that preserves the quality and availability of health care to Medicare recipients; and be it further
>
> RESOLVED, That the AMA reaffirms its position that the Medicare program establish actuarially sound financing of benefits as stated in Board of Trustees Report MM (A-86); and be it further
>
> RESOLVED, That the AMA urge Congress to incorporate the following considerations when applying budgetary controls to Medicare in place of Expenditure Targets:
>
> (a) Assure a high priority to health care for Medicare patients in relation to other programs when allocating federal funds.
>
> (b) Given Medicare's finite resources, develop a mechanism to channel those resources to those patients with greater financial need and to require a proportionately larger financial contribution by the more affluent toward their own health care.
>
> (c) Reduce the cost of defensive medicine (approximately $20 billion a year) caused by the present tort system.

Covering the Uninsured The House considered a Board report and three resolutions dealing with providing health insurance to the uninsured. After extended debate, the House adopted an amended version of the Board report that recommends that the AMA:

1. Endorse the concept of a phased-in requirement that employers (limited initially to larger employers) provide health insurance coverage within the private sector for all full-time employees, with coverage expanding over several years and with a program of diminishing tax credits or other incentives to avoid adverse effects on employers;
2. Continue to study all approaches to providing health services for the uninsured and work with business groups to develop approaches that are best suited to the needs of small employers and report to the House of Delegates at the 1989 Interim Meeting; and
3. In conjunction with other organizations begin the development of a package of basic health benefits.

Misleading Explanation of Benefits Language The House filed a report of the Council on Medical Service that described the efforts of the Council to develop accurate and clear explanation of benefits language for use by third-party payors.

The House also adopted the following additional resolutions:

- that the AMA continue to seek action that will direct HCFA to provide to both physicians and beneficiaries on all Medicare claims (whether assigned or nonassigned) a copy of the Explanation of Medicare Benefits in language easily understandable to physicians and patients.
- that the AMA seek to remove, on the Explanation of Medicare Benefits sent to patients of Medicare nonparticipating physicians, all statements regarding the participation status of the physician and the alleged benefits associated with the assignment of claims from seeing participating physicians.

Medicare Reimbursement, Geographical Differences The House adopted as amended a Council on Medical Service report that described current AMA activities to improve rural health care and to remedy geographic physician payment inequities under Medicare. The report recommended setting a floor on prevailing charges for all services at 80 percent of the national average prevailing charge for those services.

In related actions, the House called on the AMA to:

- support elimination of most Medicare reimbursement differentials between urban and rural medical care and that AMA inform the Congress of the impact of such differentials on the rural population.
- reaffirm its policy that geographic variations under a Medicare payment schedule reflect only valid and demonstrable differences in physician practice costs, with further adjustments as needed to remedy demonstrable access problems in specific geographic areas.

Resource-Based Relative Value Scale for Physician Services The House amended and then adopted a Board report that provides an update on recent events involving the RBRVS and calls on the AMA to:

1. reaffirm its support for an indemnity payment schedule.

2. support reasonable attempts to remedy geographic payment inequities that do not conflict with AMA support for an RBRVS-based indemnity system.

3. continue to seek implementation of an RBRVS-based indemnity payment system upon the expansion, correction, and refinement of the RBRVS.

4. oppose any efforts to link acceptance of an RBRVS with any proposal that is counter to AMA policy, such as expenditure targets and mandatory assignment.

5. continue to oppose the arbitrary and unwarranted use of so called "overpriced procedure" reductions as part of the fiscal year 1990 budgetary process, the use of data generated by the yet-to-be-completed Harvard RBRVS study to determine such payment cuts, and especially, the use for this purpose of RBRVS data for specialties whose RBRVS results are being restudied as part of Phase II of the RBRVS study.

In a related action, the House also adopted a resolution that called on the AMA:

- to develop and aggressively seek Congressional sponsorship and support for federal legislation that would allow AMA and the state medical associations, on behalf on physicians, to negotiate payment schedules on federal and state policies respectively, impacting on physician reimbursement.

Strengthening the US Health Care System The Board of Trustees announced a major initiative involving the commitment of substantial resources to ensure that the superiority of the US health care system is maintained. The initiative also will include significant resources to see that the public and others are fully aware of the advantage of US medicine.

Key programs include Medicaid expansion, coverage for the uninsured, and Medicare reform.

The Board report concluded, "It is not an overstatement to emphasize that American medicine is at a crossroads, with one road leading to government controls, rationing of care, and other objectionable results inherent in a nationalized system and the other leading to a strengthened US system preserving all of the advantages that mark the American system as being the best worldwide."

Study of the Canadian Health Care System The Board presented an evaluation of the Canadian health care system that concluded:

1. while the Canadian system has many positive features, it appears to be poorly suited to postindustrial societies.

2. while costs might be reduced, the centralized controls required would make it an unsatisfactory model to be followed by the United States.

Medicare Denials of Payment for Substandard Care Ten resolutions were submitted pertaining to the controversial proposed HCFA regulations on "Denial of Payment for Substandard Quality Care and Review of Beneficiary Complaints."

The House adopted a substitute resolution calling on the AMA to:

1. seek withdrawal of the proposed rule

2. use all available options, including possible legal action, to prevent further implementation until due process considerations are addressed

3. assure that quality of care decisions under these regulations be made by identifiable PRO physician reviewers, based on their clinical experience and judgment rather than reliance on mandated written criteria

4. assure that PRO physician reviewers making a quality denial be required to consult with a physician in the same specialty and practice situation before final action on only quality denial.

National Practitioner Data Bank Four resolutions addressed a growing concern with the development of the National Practitioner Data Bank project.

A substitute resolution was adopted that contained several directives:

1. That the American Medical Association request a modification of the National Practitioner Data Bank requirements so that settlements and judgments of less than $30,000 are not reported or recorded;

2. That reports, other than licensure revocation, in the data bank be purged after five years;

3. That proctoring of physicians for the purpose of investigation not be reported;

4. That physicians not be required to turn over copies of their data bank file to any third party not authorized direct access to the data bank;

5. That the AMA seek to assure that any physician's statement included in the data bank file automatically accompany any adverse report about that physician in distributions from the data bank;

6. That the AMA, in addition to publishing articles in *AMNews*, develop additional educational materials as appropriate for physicians to understand the implications of the National Practitioner Data Bank.

Medicare ICD-9-CM Coding The Catastrophic Coverage Act of 1988 contained a diagnostic coding requirement that carries a civil money penalty provision for failure to utilize ICD-9-CM coding. The House adopted a substitute resolution that calls on the AMA to:

1. support legislation to repeal or substantially ameliorate the threat of federal civil money penalty liability for failure to utilize ICD-9-CM and DSM 3R code in filing Medicare claims;

2. seek amendments to the quasicriminal Medicare civil money penalty process to providing to those charged with civil offenses the same right now available to defendants in criminal proceedings;

3. make every effort to assure that HCFA's implementation of the coding requirement be undertaken with a view to minimizing compliance difficulties to physicians and their office staff;

4. review all other Medicare civil monetary penalty provisions, assess the reasonableness of these fines and the process available to physicians to challenge civil

fines levied against them, and report its findings and recommendations to the House of Delegates at the 1989 Interim Meeting;

5. request Congress to repeal the ICD-9-CM coding requirement for physician services under Medicare.

Physician Involvement in Joint Ventures The House adopted a Board report that describes strong association policy that patients can and do benefit from referral to an "owned" facility as the facility may be the most appropriate entity to provide the care needed in terms of quality of care, price, and convenience. The report also indicated that the AMA is in the process of an all out legislative effort to prevent passage of this proposal.

Clean Air The House adopted a resolution asking the AMA to join with various governmental bodies, state and local medical societies, and other organizations to achieve a comprehensive national policy and program to address the adverse health effects from environmental pollution factors.

Physician Collective Negotiation The House adopted a report describing the establishment of the Physicians Negotiation Advisory Office within the AMA. It outlined AMA's activities related to antitrust issues as well as collective negotiation matters.

Restriction on Assault Weapons The House adopted a substitute resolution calling on the AMA to support appropriate legislation that would restrict the sale and private ownership of large clip, high-rate-of-fire, automatic, and semi-automatic firearms.

AIDS At the 1987 Annual Meeting, the House adopted its landmark AIDS policy that provided physicians with a coherent, comprehensive response to the AIDS epidemic. Given the complexity of AIDS-related issues, advances in the detection of viral infection, and the changing nature of the AIDS epidemic, the House referred to 10 resolutions to the Board and asked the Board for an updated policy report on AIDS at the 1989 Interim Meeting.

Tobacco Use The House continued its strong efforts to achieve a smoke-free society by taking action to:

1. Advocate that all American hospitals ban tobacco use by January 1, 1991.

2. Urge physicians to prohibit smoking and use of tobacco products in their offices.

3. Work toward legislation and policies to promote a ban on smoking and use of tobacco products in hospitals, health care institutions and educational institutions (including medical schools).

4. Develop and disseminate model language to Administrators of US hospitals and the membership of the Hospital Medical Staff Section of the AMA, to emphasize and facilitate the importance of a smoke-free hospital environment.

5. Direct the AMA commissioners to the Joint Commission to pursue with representatives of AHA as a matter of high priority, the implementation of these or incorporation of the model language.

In other actions on tobacco use, the House voted to:

- study methods and develop legislation to limit access of individuals under 21 years of age to tobacco products
- recognize and condemn the targeting of advertisements for cigarettes and other tobacco products toward children, minorities, and women
- identify gaps, if any, in existing materials and programs to train physicians and medical students in the behavior modification skills necessary to successfully counsel patients to stop smoking.

Delegates:
ALBERT M. ANTLITZ MD, Chairman
ROLAND T. SMOOT MD, Vice-Chairman
DONALD T. LEWERS MD
MICHAEL R. DOBRIDGE MD
JOSEPH SNYDER MD
GEORGE S. MALOUF MD
JOHN H. HEBB MD
Alternate Delegates:
HENRY N. WAGNER JR., MD
J. DAVID NAGEL MD
REYNALDO L. LEE-LLACER MD
DANIEL P. PAOLI
ALEX AZAR MD
RAYMOND M. ATKINS MD
BARRY E. EPSTEIN MD

Bylaws

Mr. President and Members of the House of Delegates:

The Bylaws Committee recommends the following bylaw amendments to the House of Delegates for its consideration:

1. Proposed Bylaw Amendment Regarding Associate Members

- Rationale: Proposed bylaw amendment to define more clearly the voting rights of associate members of the Faculty.
- Amend Article II (Membership), Section 2(c) (Associate Members), following the words "may be appointed to serve on" and before the words "on committees of the Faculty" by inserting the words "the Faculty's Council, without vote, and. . . ."

CURRENT BYLAW
[ ] indicates deletion

(c) Associate members shall have the right to attend and participate in General Meetings; subscribe to the *Maryland Medical Journal*; have the privileges of the building, the reading room, the use of the books, and to hold such meetings in the building as meet with the approval of the Executive Committee. They shall not have the right to vote or hold office in their component societies, [but] may be appointed to serve on committees of the Faculty, except the Committee on Physician/Patient Relations, the Committee on Physician Rehabilitation, the Committee on Peer Review, and the Committee on Drugs. Those associate members who are Doctors of Medicine engaged in the clinical practice of medicine shall have the right of physician's defense.

PROPOSED BYLAW
CAPS indicate change

(c) Associate members shall have the right to attend and participate in General Meetings; subscribe to the *Maryland Medical Journal*; have the privileges of the building, the reading room, the use of the books, and to hold such meetings in the building as meet with the approval of the Executive Committee. They shall not have the right to vote or hold office in their component societies. THEY may be appointed to serve on THE FACULTY'S COUNCIL, WITHOUT VOTE, AND on committees of the Faculty, except the Committee on Physician/Patient Relations, the Committee on Physician Rehabilitation, the Committee on Peer Review, and the Committee on Drugs. Those associate members who are Doctors of Medicine engaged in the clinical practice of medicine shall have the right of physician's defense.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

2. Proposed Bylaw Amendment to Clarify Terms of Office on Council

- Rationale: To more clearly define the term of office of the members of Council by including the term of the representative of the newly established Committee on Specialty Societies.
- Amend Article IV (Officers), Section 6, following the words "Councilors shall hold office for a term of three years," and before the words "or until their successors are elected," by inserting the words "with the exception of the representative of the Committee on Specialty Societies who shall serve for a term of one year, . . . "

CURRENT BYLAW

Section 6. *ELECTIVE OFFICERS EXCEPT COUNCILORS* shall hold office for a term of one year or until their successors are elected. Councilors shall hold office for a term of three years or until their successors are elected, provided that they may not serve more than two consecutive terms. Elective officers, except councilors, shall assume their duties at the close of the annual session one year after their election, except that the President-elect shall assume that office at the close of the annual session at which he is elected. Councilors in each newly elected annual class shall assume their duties at the close of the annual session immediately preceding which they were elected.

PROPOSED BYLAW
CAPS indicate change

Section 6. *ELECTIVE OFFICERS EXCEPT COUNCILORS* shall hold office for a term of one year or until their successors elected. Councilors shall hold office for a term of three years, WITH THE EXCEPTION OF THE REPRESENTATIVE OF THE COMMITTEE ON SPECIALTY SOCIETIES WHO SHALL SERVE FOR A TERM OF ONE YEAR or until their successors are elected, provided that they may not serve more than two consecutive terms. Elective officers, except councilors, shall assume their duties at the close of the annual session one year after their election, except that the President-elect shall assume that office at the close of the annual session at which he is elected. Councilors in each newly elected annual class shall assume their annual duties at the close of session immediately preceding which they were elected.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

3. Proposed Bylaw Amendment to the AMA Delegation

- Rationale: To clarify the seating of delegates to the AMA by deleting the word "THEIR" in the title.
- Amend Article XI (Committees), Section 6, following the words "AT LEAST TWO OF THE DELEGATES AND" and before the words "ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION" by deleting the word "THEIR."

CURRENT BYLAW
[ ] indicates deletion

Section 6. *AT LEAST TWO OF THE DELEGATES AND [THEIR] ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION* shall be nominated and elected in the same manner and at the same time as that provided for the elective officers. Their terms shall begin on January 1 of the year following their election and they shall serve for a term of three years or until their successors are elected.

PROPOSED BYLAW

Section 6. *AT LEAST TWO OF THE DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION* shall be nominated and elected in the same manner and at the same time as that provided for the elective officers. Their terms shall begin on January 1 of the year following their election and they shall serve for a term of three years or until their successors are elected.

They Bylaws Committee recommends adoption of this proposed bylaw amendment.

4. Proposed Bylaw Amendment to Editorial Board

- Rationale: To more clearly define the responsibilities of the Editorial Board.
- Amend Article XI (Committees), Section 8 (Editorial Board), by inserting the following new Section 8:

CURRENT BYLAW
[ ] indicates deletion

[Section 8. There shall be an *EDITORIAL BOARD* composed of the Editor of the *Maryland Medical Journal* and six members, two of whom shall be appointed by the President each year for a three-year term.]

PROPOSED BYLAW
CAPS indicate change

SECTION 8. THERE SHALL BE AN *EDITORIAL BOARD* OF THE *MARYLAND MEDICAL JOURNAL* COMPOSED OF THE EDITOR, APPOINTED BY THE COUNCIL FOR A THREE-YEAR TERM OR UNTIL A SUCCESSOR IS APPOINTED; AN ASSOCIATE EDITOR DESIGNATED BY THE PRESIDENT FROM THE BOARD MEMBERS FOR A THREE-YEAR TERM OR UNTIL A SUCCESSOR IS APPOINTED; AND SIX MEMBERS, TWO OF WHOM SHALL BE APPOINTED BY THE PRESIDENT EACH YEAR FOR A THREE-YEAR TERM. THE BOARD SHALL REVIEW AND ACCEPT PAPERS FOR PUBLICATION IN THE *MARYLAND MEDICAL JOURNAL* IN ACCORDANCE WITH THE OBJECTIVES AS APPROVED BY COUNCIL. THE BOARD SHALL PERIODICALLY REVIEW

ITS GOALS/PURPOSES OF PUBLICATION FOR COUNCIL REVIEW AND APPROVAL, AND SHALL REPORT TO THE COUNCIL AT APPROPRIATE INTERVALS.

The Bylaws Committee recommends adoption of this proposed amendment.

5. Proposed Bylaw Amendment to the Committee on Medicine and Religion

- Rationale: To include the appointment of the Chairman by the President.
- Amend Article XI (Committees), Section 18 (Medicine and Religion Committee), following the first sentence, by inserting the words "The president shall designate the chairman."

CURRENT BYLAW

Section 18. A *COMMITTEE ON MEDICINE AND RELIGION* shall be appointed by the President to consist of not less than six members. It shall be charged with maintaining liaison and effective lines of communication between physicians and clergymen leading to the most effective care and treatment of the patient and his family. It shall also endeavor to assist medical schools and nursing schools in their educational endeavors, and shall be available to theological seminaries for similar assistance--all within the area of medicine and religion.

PROPOSED BYLAW
CAPS indicate change

Section 18. A *COMMITTEE ON MEDICINE AND RELIGION* shall be appointed by the President to consist of not less than six members. THE PRESIDENT SHALL DESIGNATE THE CHAIRMAN. It shall be charged with maintaining liaison and effective lines of communication between physicians and clergymen leading to the most effective care and treatment of the patient and his family. It shall also endeavor to assist medical schools and nursing schools in their educational endeavors, and shall be available to theological seminaries for similar assistance--all within the area of medicine and religion.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

6. Proposed Bylaw Amendment to Establish the Peer Review Managment Committee

- Rationale: To establish the present Ad Hoc Committee on Peer Review Management as a full standing committee of the Faculty.
- Amend Article XI (Committees), by inserting the following new Section 24, subsequent sections automatically being redesignated:

Section 24. A *PEER REVIEW MANAGEMENT COMMITTEE (PRMC)* shall consist of not less than nine members and may be selected from nominees submitted by component societies. Appointments shall be based on the nominees' experience on a medical review committee. The Chairman and members shall be appointed by the President. The Chairman or his designee may serve in an ex-officio capacity on the Board of Physician Quality Assurance. It shall be the duty of the committee to receive and record cases referred by the Board of Physician Quality Assurance; to identify the guidelines to be used in conducting reviews; refer cases to the appropriate Med Chi committee, component, specialty society or regional committee; to monitor the status of each case; to review reports received from investigating committees to determine adequacy of the review and the report and either transmit the report to the Board of Physician Quality Assurance or return it to the investigating committee with any inadequacies specified. Further, it shall be the duty of this committee to provide educational programs throughout Maryland to emphasize the elements of peer review; to provide organizational assistance to any review committee in Maryland; and to gather, analyze, and report statistical information annually for use by the Board of Physician Quality Assurance, Med Chi, and component societies in evaluating and upgrading the peer review process.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

7. Proposed Bylaw Amendment to the Public Relations Committee

- Rationale: To include as a function of the committee the responsibility to work with the media in enhancing the public image of the physician.
- Amend Article XI (Committees), Section 30 (Public Relations Committee), in the first sentence, following the words "members shall undertake to" by inserting the words "enhance the image of the physicians;. . ."

CURRENT BYLAW

Section 30. A *PUBLIC RELATIONS COMMITTEE* of at least five members shall undertake to supply speakers to organizations requesting them on subjects relating to the practice of medicine; undertake such methods as it deems advisable to inform and instruct the public generally on subjects related to the practice of medicine; issue to the press and other media of public information releases relating to the meetings, actions and activities of the Faculty, with the advice and approval of the President or Executive Director, and serve in an advisory capacity to the Auxiliary. Its chairman shall be appointed by the President. The Maryland State Dental Association shall have the right to elect one associate member of the committee with voice but without vote.

PROPOSED BYLAW
CAPS indicate change

Section 30. A *PUBLIC RELATIONS COMMITTEE* of at least five members shall undertake to ENHANCE THE IMAGE OF PHYSICIANS; to supply speakers to organizations requesting them on subjects relating to the practice of medicine; undertake such methods as it deems advisable to inform and instruct the public generally on subjects related to the practice of medicine; issue to the press and other media of public information releases relating to the meetings, actions and activities of the Faculty, with the advice and approval of the President or Executive Director, and serve in an advisory capacity to the Auxiliary. Its chairman shall be appointed by the President. The Maryland State Dental Association shall have the right to elect one associate member with voice but without vote.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

8. Proposed Bylaw Amendment to Public Health Committee

- Rationale: To reorganize the Committee on Public Health to empower it to function as the primary committee within Med-Chi to evaluate and act upon all social and economic aspects of medical care relating to public health. To accomplish this, the following committees would be redesignated as subcommittees within the auspices of the primary Comittee on Public Health:

  Committee on AIDS
  Committee on Alcoholism and Chemical Dependency
  Subcommittee on Child and Adolescent Health and Welfare
  Subcommittee on Immunology and Infectious Diseases
  Liaison Committee with the Department of Health and Mental Hygiene
  Committee on Long Term Care and Geriatrics
  Subcommittee on Maternal Health and Welfare
  Committee on Mental Health
  Committee on Occupational Health
  Subcommittee on Sports Medicine

The House of Delegates at its meeting on April 12, 1989 recomitted this proposed bylaw amendment to the Bylaws Committee for further consideration. In the interim, a meeting was held by the Public Health Committee and their recommendations were submitted to the Bylaws Committee. Following review of this additional information, the Bylaws Committee developed the following motions, each of which will be addressed individually:

(a) The Bylaws Committee rejected the concept of establishing one umbrella Public Health Committee with 10 subordinate committees.

(b) For clarification purposes, the Bylaws Committee recommends that the existing structure of the Public Health Committee be maintained as currently organized with its four subcommittees:

  Subcommittee on Child and Adolescent Health and Welfare
  Subcommittee on Immunology and Infectious Diseases
  Subcommittee on Maternal Health and Welfare
  Subcommittee on Sports Medicine.

(c) The following Proposed Bylaw Amendment to the Liaison Committee with the Department of Health and Mental Hygiene is herewith presented:

- Rationale: To clarify this committee's responsibility as focusing on the Medical Assistance Program and not liaisoning with the Department of Health and Mental Hygiene as this is the purpose of the Public Health Committee.
- Amend Article XI, Section 14 (Liaison Committee with the Department of Health and Mental Hygiene) by striking it in its entirety and inserting the following new Section 14:

OLD
[ ] indicates deletion

[Section 14. A *LIAISON COMMITTEE WITH THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE* consisting of not less than 7 members shall be appointed by the President who shall designate the Chairman. Its main responsibility will be to maintain continuous liaison with the Department, particularly as it involves the Medical Assistance Program, the payments made under such programs to providers of health care services, and all other facets of operation of this program. It shall act as a consultant to the Department in evaluating the quality of care, experimental programs involving alternate methods of delivery of care and any other area wherein improvement of health services provided to medical assistance patients may be undertaken.]

NEW
CAPS indicate change

SECTION 14. A *LIAISON COMMITTEE WITH MEDICAL ASSISTANCE PROGRAM* CONSISTING OF FIVE MEMBERS SHALL MAINTAIN CONTINUOUS LIAISON WITH THE MEDICAL ASSISTANCE PROGRAM, THE PAYMENTS MADE UNDER SUCH PROGRAMS TO PROVIDERS OF HEALTH CARE SERVICES, AND ALL OTHER FACETS OF OPERATION OF THIS PROGRAM. IT SHALL ACT AS A CONSULTANT TO THE MEDICAL ASSISTANCE PROGRAM IN EVALUATING THE QUALITY OF CARE, EXPERIMENTAL PROGRAMS INVOLVING ALTERNATIVE METHODS OF DELIVERY OF CARE AND ANY OTHER AREA WHEREIN IMPROVEMENT OF HEALTH SERVICES PROVIDED TO MEDICAL ASSISTANCE PATIENTS MAY BE UNDERTAKEN. THE PRESIDENT SHALL APPOINT THE CHAIRMAN AND MEMBERS OF THE COMMITTEE.

The Bylaws Committee recommends adoption of this proposed bylaw amendment.

This concludes the report of the Bylaws Committee.

KARL H. WEAVER MD, Chairman
THOMAS E. ALLEN MD
ROSE MARY H.M. BONSACK MD
HENRY P. LAUGHLIN MD
BRIAN S. BAYLY MD
DAVID S. DAVIS MD
MARVIN SCHNEIDER MD

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Reference

Mr. President and Members of the House of Delegates:

The Reference Committee met on Thursday, August 10, 1989 to consider two resolutions which are herewith presented for your consideration:

Resolution 1S/89 - Subject: Condemnation of Use of Anabolic Steroids in Enhancement of Athletic Performance

Whereas, The use of anabolic steroids to enhance athletic performance is fraught with danger to the health of the user;
Whereas, That the use of such steroids creates an unfair competitive advantage and encourages use of these substances by other competitors; and
Whereas, Anabolic steroids can be used safely under medical supervision and have an accepted use in the treatment of several medical conditions, including certain anemias, hereditary angioedema, and breast cancer; therefore, be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland hereby universally and unequivocally condemns the use of anabolic steroids to enhance athletic performance;
RESOLVED, That anabolic steroids be used only under the prescription of a licensed physicians for medically indicated purposes; and be it further
RESOLVED, That the Medical and Chirurgical Faculty work with the office of the Governor, as well as with the state legislature in all efforts to endorse educational activities aimed at appropriate interested individuals such as sports group administrators, coaches, trainers, parents, and athletes to curb the nonmedical use of anabolic steroids.

The Reference Committee recommends adoption of this resolution.

Resolution 2S/89 - Subject: Medical Care Review

Whereas, The physicians of the State of Maryland are under continuous pressures to reduce the average lengths of stay of hospitalized patients, not only by the hospitals, but also from the numerous government agencies;
Whereas, The physicians of the State of Maryland are under continuous surveillance by third-party payors; Medicare, through its PRO, and the State of Maryland through its Medicaid contract;
Whereas, We are living in a litigious society in which any adverse or negative results are continually scrutinized by lawyers specializing in malpractice;
Whereas, The Health Care Financing Administration (HCFA) has devised a system of staging quality problems by levels of severity; and
Whereas, HCFA has labeled the level of severity as "medical mismanagement" whether or not it involves physician mismanagment;
Whereas, HCFA intends to mail letters concerning quality of care directly to the patients that could result in increasing the possibility of litigation; therefore, be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland strongly condemn HCFA's system of nomenclature because it would encourage an increase in law suits by de facto underwriting of legal decisions without due process of law; and
RESOLVED, That the Medical and Chirurgical Faculty of Maryland encourages "medical care review" for the purpose of improving the medical care of our state residents, but that this review process be one of education and rehabilitation, rather than the destructive process of encouraging litigation, which it condemns; and be it further
RESOLVED, That the Medical and Chirurgical Faculty of Maryland that represents all physicians in the State of Maryland and the state-of-the-art of medicine in Maryland, consult with the PRO (Delmarva Foundation for Medical Care) to clarify these issues so that the end result would not be to compound the malpractice crisis.

The Reference Committee recommends adoption of this resolution.

During deliberation by the Reference Committee, it was requested that if this resolution were to be adopted, consideration should be given to submitting it to the AMA. Report RR of the June, 1988 AMA House of Delegates contains 15 resolutions dealing with HCFA policies on the issues of "medically unnecessary" denial, intrusion on patient/physician relationships, medical denial of disputed claims, etc. This subject, therefore, is already addressed as AMA policy and would be duplicative if forwarded to the AMA for consideration.

Once again, the Reference Committee recommends adoption of this resolution.

This concludes the report of the Reference Committee.

AUBREY C. SMOOT MD, Chairman
MARGARET T. SNOW MD *GARY L. ROSENBERG* MD
MAX E. BYRKIT MD *ZORAYDA LEE-LLACER* MD

Ad Hoc Committee on Late Resolution

Mr. President and Members of the House of Delegates:

Resolution 5A/89, considered at the Faculty's Annual Meeting in 1989 was referred to an appropriate Faculty committee as follows:

After debate, a motion was adopted to refer the resolution (5A/89) to the appropriate committee of the Faculty for study and report back to the House of Delegates at its 1989 Semiannual Meeting.

Resolution 5A/89 read as follows:

Whereas, There are major forces in the delivery of health care in Maryland, which are denying the patient the right to free choice;
Whereas, The Federal Government has expanded its role in healthcare delivery by expanding the interpretations of the intent of the laws, without benefit of consultation with those delivering the care; and
Whereas, A steady decline in the quality of healthcare adversely affecting eligible Medicare enrollees is anticipated, while the costs are being caused to rise due to increasing administrative expenditures; therefore be it
RESOLVED, That the Medical and Chirurgical Faculty of Maryland cause to be established a Maryland Healthcare Delivery Alliance, consisting of the Faculty, the Maryland Hospital Association, the Maryland Nursing Association, and other statewide professional associations, in order to act as a unified voice, which would have greater effect than the individual groups themselves.

In a memorandum dated June 7, 1989, Raymond M.

Atkins MD, President, appointed five physician members to an Ad Hoc Committee to review late Resolution 5A/89, Establishment of a Maryland Healthcare Delivery Alliance.

After extensive deliberation, the Committee agreed that the proposed Healthcare Delivery Alliance in the original resolution was too encompassing and not sufficiently flexible to be practicable and workable in meeting the intent and application of this resolution.

Therefore, the resolution was modified and amended as follows (the recommended changes are indicated in CAPITAL LETTERS):

Whereas, There are major forces in the delivery of healthcare in Maryland, which are denying the patient the right to free choice; and

Whereas, The Federal Government has expanded its role in healthcare delivery by expanding the interpretations of the intent of the laws, without benefit of consultation with those delivering the care; and

Whereas, A steady decline in the quality of healthcare adversely affecting eligible Medicare enrollees is anticipated, while the costs are being caused to rise due to increasing administrative expenditures; therefore be it

RESOLVED, that the Medical and Chirurgical Faculty of Maryland seek the cooperation and support of other statewide professional associations involved with the medical care system, such as the Maryland Hospital Association and the Maryland Nursing Association, in order to have greater impact in shaping the medical care system than an individual group could have acting alone; and

RESOLVED, that these efforts be directed toward enabling physicians and hospitals to continue to deliver quality medical care and ensure access to that care; and, be it further

RESOLVED, that the Medical and Chirurgical Faculty of Maryland maintain communication with these professional groups in order to foster effective cooperation on issues of common concern.

The substitute language evolved from comments of each of the *ad hoc* members. The new language meets the intent of the original resolution as proposed by Prince George's Medical Society; namely, to encourage improved communication and cooperation of statewide professional associations involved in the health care system. It also gives the Faculty more flexibility in meeting the charge of the resolution.

At the same time, the new language avoids problems inherent in the original wording. As a practical matter, Med Chi can seek cooperation, but no one party can cause a coalition to be formed. In addition these same professional groups, and the MHA, in particular, very often have interests diametrically opposed or inimical to those of Med Chi. While that reality may not prevent cooperation on some issues, it may hamper efforts for a vital and successful coalition.

The Committee agreed that benefit can be gained by putting Med Chi on record as seeking cooperation and better communication with these other groups when appropriate issues arise and therefore recommends adoption of the substitute resolution as presented.

This concludes the report of the Ad Hoc Committee to review resolution 5A/89.

GARY L. ROSENBERG MD, Chairman, Ad Hoc Committee
(Liaison Committee with DHMH)
VICTOR R. HREHOROVICH MD (Hospital Medical Staffs Committee)
ARISTIDES ALEVIZATOS MD (Committee on Managed Care)
ROBERT RUDERMAN MD (Prince George's County)
MURRAY KALISH MD (Ancillary Services) ■



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Commentary

The Hired Gun

The responsibility and qualification of a so-called expert medical witness is a subject most often debated in instances of professional liability. Such discussion usually emphasizes the familiar faces stabled by lawyers who specialize in medical malpractice and their testimony, which is usually favorable for the plaintiff. A close look at many physicians in this role shows that a substantial portion of their income is derived from medicolegal consulting activity. The argument presented here is not that physicians should not testify on behalf of patients and against physicians but that such witness stand the tests of scrutiny and review. Furthermore, when this activity is found to follow a pattern that does not reflect accepted medical practice standards, disciplinary action should be invoked..

We find some "experts" appearing so frequently in court that their actual clinical experience is questionable in view of time spent in legal consulting activities. Similarly, witnesses from academic settings, while highly trained and qualified on paper, may be unfamiliar with practice settings of limited resources and other circumstantial factors that bear on the care that might be rendered. The failure of the courts to identify foundational standards for qualifying a medical expert as an "objective unbiased critic" is identified as one of many factors eroding the standard of care by which physician defendants are judged.

Adding further to the erosion of expert medical testimony is the increasing visibility of contingent fee arrangements for physician consulting services now being marketed by national medicolegal consulting firms. It is obvious that a witness who participates in a contingent fee arrangement inevitably creates a situation where his/her role as an expert resource to the court may be compromised by personal financial concerns. While the law in most states prohibits direct payment of contingent fees to professional experts, some attempt to avoid such laws by offering managerial assistance for a contingent fee while maintaining an hourly fee structural for the actual consultants they supply.*

In addition to endangering the objectivity of the expert witness, contingent fee agreements with witnesses or consulting firms also inhibit the compensation goals of the tort system. The civil justice system has evolved into a process that is exceptionally generous in paying its professional participants and yet inefficient and too often arbitrary in compensating persons injured by medical negligence. If every witness in complex litigation were empowered to negotiate a contingent fee, there could be virtually nothing remaining for a plaintiff. It is a joint responsibility of the medical and legal professions, the judiciary, and state legislatures to protect with appropriate regulation the claimant's ability to obtain compensation at a reasonable fee for injuries caused by the fault of a health care provider.

At the recent annual meeting of the House of Delegates of the American Medical Association, the Pennsylvania Delegation submitted a resolution derived from a set of guidelines offered by the American College of Obstetricians and Gynecologists. These define the expert medical witness as follows:

1. The physician should have current experience and ongoing knowledge in the areas of clinical medicine about which he or she is testifying.
2. The physician's review of medical facts should be thorough, fair, and impartial and should not exclude any relevant information in order to create a view favoring either the plaintiff or the defendant.
3. The physician's testimony should reflect an evaluation of performance in light of generally accepted standards, neither condemning performance that clearly falls within generally accepted practice standards nor endorsing or condoning performance that clearly falls below these standards.
4. The physician should make clear distinction between medical malpractice and medical maloccurrence. The practice of medicine is a mixture of art and science, and is a dynamic and changing discipline based to a great extent on concepts of probability rather than on absolute certainty.
5. The physician should make every effort to assess the relationship of the alleged substandard practice to the outcome, since deviation from a practice standard is not always causally related to a bad outcome.
6. The physician should be willing to subject transcripts of depositions and courtroom testimony to peer review.

It is the opinion of many commentators that expert testimony should be treated as a scholarly endeavor

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* Maryland State Bar Association Code of Professional Responsibility: DR 7-109(C) provided that a lawyer shall not pay, offer to pay, or acquiesce in the payment of compensation to a witness contingent upon the content of his testimony or the outcome of the case. But a lawyer may advance, guarantee, or acquiesce in the payment of:

(1)Expenses reasonably incurred by a witness in attending or testifying.

(2)Reasonable compensation to a witness for his loss of time in attending or testifying.

(3)A reasonable fee for the professional services of an expert witness.

and as such should be the subject of review by medical associations and medical licensing boards. Furthermore, since providing expert testimony is part of the practice of medicine it should be within the purview of state medical board regulation and professional peer review activities.

The recommendation to state medical societies that legislation addressing "expert medical witnesses" be promoted seems only logical. While their provisions may vary, they should include:

1. some minimum training requirement in the specialty or medical field at issue in the liability claim;
2. time parameters for active clinical experience and/or teaching experience within one to five years of the date of the occurrence giving rise to the claim to assure up-to-date knowledge and skills; and
3. geographical limitations on the residence of the expert or the requirement that an out-of-state expert is familiar with the standard of care in the state where the alleged negligence occurred.

To prevent physicians who may be biased by their financial interests, a recent decision by the Illinois Supreme Court in the case of *Trower vs. Jones*, 121 Ill. 2d 211 (1988) appears preferable. *Trower* upheld a trial court's discretion to allow cross-examination on the following issues:

1. the amount of compensation received for the expert's consultation and testimony;
2. the frequency of the physician's expert witness activities;
3. the proportion of the physician's professional time devoted to and income derived from such activities; and
4. the frequency with which he or she testified for either plaintiffs or defendants.

In conclusion, expert medical witnesses should be encouraged to seek peer review of their opinions, as they would scholarly articles or other activities that do not involve the rendering of patient care. The best venue for conducting this activity would appear to be the setting in which established peer review mechanisms already exist. For most physicians, this activity occurs within the medical center, teaching facility, or other locus where they practice or are employed.

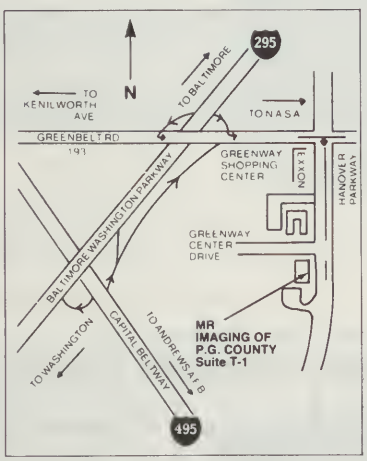
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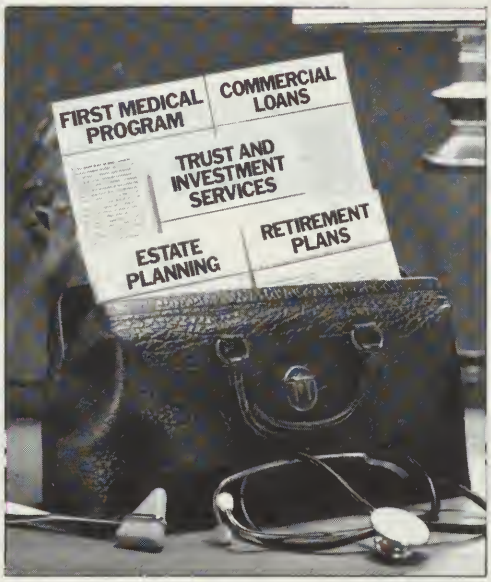


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Management of Cocaine Abuse in Methadone Maintenance Programs

Efficacy studies of methadone maintenance treatment for opiate addicts have demonstrated clients' decreased opioid use, lessened crime, and improvement in employment.[1] Recently, cocaine abuse by opioid addicts being treated with methadone has been increasing. The rate of cocaine use in New York City methadone maintenance programs had more than tripled from 1974 to 1979.[2] Twenty-six percent of the urine samples collected from these programs contained cocaine metabolites. In 1986, Kosten et al. reported on a cross-sectional comparison of opioid addicts applying for treatment from 1978 through 1980 with former heroin addicts in methadone maintenance.[3] Seventy-four percent of opioid addicts applying for treatment and 20 percent of the methadone sample had used cocaine in the last 30 days. Results of a 2.5 year follow-up of the opioid addicts who had applied for treatment between 1978 and 1980 showed that cocaine abuse had only minimally reduced and the number of clients using cocaine at least weekly had doubled since intake.[4]

The Maryland Substance Abuse Management Information Services reported that of the 3,655 statewide methadone treatment admissions, 47.9 percent had problems reported with cocaine in addition to an opiate drug.[5] This is an increase from 1986, (43.0 percent), and essentially the same percentage as 1987 (48.6 percent). Statewide, there were 3,183 methadone discharges in 1988. Of the total discharges, 1,730 (54.4 percent) left with cocaine problems. Presently there is no nationwide tabulation of cocaine abuse among methadone maintenance patients.

Intravenous Cocaine Use and HIV

Replacing intravenous (IV) heroin with oral methadone is a benefit of methadone maintenance because of reduced risk of the spread of HIV infection and of other viruses through needle and paraphernalia sharing.[2] Most opioid addicts inject cocaine intravenously. Thus, cocaine use threatens the social gains and decreased intravenous drug use attributable to methadone maintenance treatment.[3] When Chaisson et al. assessed 633 heterosexual IV drug users from nine outpatient detoxification or methadone maintenance programs in San Francisco,[4] they found that IV cocaine use significantly increased the risk of HIV infection, with a seroprevalence of 35 percent in daily cocaine users.

Reponses to Cocaine Use by 12 Methadone Programs

A recent study surveyed 12 methadone maintenance treatment programs (MMP) in the Baltimore-Philadelphia area to determine the treatment methods MMP staff use when a client is found to use cocaine, usually after a routine urine drug screen tests positive for cocaine. These include increased counseling; loss of privileges (that is, take-home methadone doses); increased urine testing; contingency contracting that specifies that a methadone dose will be reduced for each urine positive for cocaine, review of the treatment plan, mandatory hospitalization, referral to specific cocaine treatment centers, Narcotics Anonymous (NA) and/or Alcoholics Anonymous (AA), or Cocaine Anonymous; and contingency contracting such that their treatment plan specifies the client will be administratively discharged if the client has one more positive urine during a specified time period.

All of the 12 programs increase the number of counseling sessions after a client submits two or more cocaine-positive urines. This may be group or individual counseling or both. Therapy is usually supportive and directive though relapse prevention and relaxation therapy are used as well at some programs.

Urine testing at the 12 programs for a client with no infractions occurs an average of 1.7 times a month. Overall the frequency of urine testing for cocaine in clients known to abuse cocaine ranged from a maximum of 4 times a week to 8 times a year. Furthermore, MMPs not only obtain urine drug screens at varying times but also they use different analytical methods with different sensitivities: thin layer chromatography (TLC), which detects cocaine metabolite in urine up to 12 to 24 hours after a dose of cocaine, or Enzyme Multiplied Immunoassay Technique (EMIT), which detects cocaine metabolites up to 48 hours after a cocaine dose.[6] The MMPs are moving toward increased use EMIT.[7] This change results in increased expense at a time when governments' subsidies for urine toxicology have been cut back, forcing the programs to rely more on client fees to pay for testing. Unfortunately, this situation often results in decreased frequency in urine testing of the client population. The MMPs tend to target individuals known or suspected to abuse cocaine for more frequent urine toxicology.

All programs terminate take-home methadone doses after a client submits a cocaine positive urine. One justification for discontinuation is the possibility of diversion. Methadone sells for approximately one dollar a "gram" on the streets in Baltimore. The approximate street value of cocaine powder in Baltimore is $100 per one "gram." It is sold in amounts as small as "dime" ($10) bags, which addicts report amounts to 1 to 3 intravenous injections.

Contingency contracts that call for a reduction in methadone dose with each positive urine sample are controversial. Stitzer et al. found that aversive consequences appeared to promote dropout.[8] Three of the

12 programs use this intervention; two other programs discontinued using dose-lowering contracts.

All 12 programs rely on hospitalization for patients with acute medical and psychiatric sequelae of cocaine use. They differ, however in their criteria for referral of the cocaine-abusing client for inpatient detoxification, usually a seven-day stay, which is often difficult to arrange. Few hospitals will maintain a patient on methadone during a cocaine detoxification. Referral is expedited if the client is motivated to discontinue cocaine or is "on a run" using cocaine excessively daily. Cocaine abstinence can occur after inpatient detoxification but relapse is common.

Discharge from Treatment Because of Cocaine Use

The MMPs' policies vary for detoxification from methadone and for discharge from the MMP due to cocaine abuse. All programs discharged cocaine using clients for noncompliance of general programs rules: failing to keep individual or group counseling appointments, missed methadone doses, not paying clinic fees, and acts of aggression. A member of the study survey staff reviewed each program's records with the MMPs' directors and staff to ascertain how many clients were discharged for cocaine use in the previous month and the previous year. The results do not include client discharge due to behavior infractions that may be related to cocaine use. The percentage of clients discharged for cocaine use per program during the prior month was 0 to 5 percent. In the preceding year, 0 to 67 percent of clients were discharged for cocaine abuse per program per year. The discharged cocaine users equaled 20 percent of the total methadone maintenance population studied.

Discharging a cocaine-abusing client who continues to use cocaine despite increased counseling, urine testing, loss of take home methadone doses privilege, and other therapeutic interventions poses a no-win situation. The client is almost certain to return to IV heroin use increasing the likelihood of behaviors that increase the risk of infection with HIV and other viruses such hepatitis. To keep clients in methadone treatment when they continue to use cocaine, however, may be seen as subtle acquiescence by the clients.

Comments

Intervention with this group of addicts requires intense staff involvement and expensive urine testing. At risk are clients' social functioning, employment, and decreased crime days, as well as their physical health, risk of HIV, and other infections. Methadone maintenance treatment programs now use multiple therapeutic techniques. More clinically applicable research is needed to help develop guidelines for urine testing, counseling, and other therapeutic interventions.

Short-term interventions in the battle against AIDS deserve attention but must not preclude funding and investigation of longer-term treatment, particularly given the relapsing nature of opiate and cocaine abuse. A climate of productive collaboration between these front-line workers, the MMP staff, medical researchers, and policy makers is crucial.

Acknowledgments

This study would not have been possible with out the excellent effort and time of the staff and directors of the 12 treatment programs.

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The opinions expressed herein are those of the author and do not necessarily reflect the official position of the National Institute on Drug Abuse or any other part of the U.S. Department of Health and Human Services.

Segments of this study were presented at The Maryland Psychiatric Society Scientific Meeting, April 27, 1989, Wendell Muncie Prize Award Lecture. ■

Inflammatory Carcinoma of the Breast: Part I

Inflammatory carcinoma of the breast constitutes 1 to 4 percent of all primary breast cancer in the United States.[1] There are no known specific etiological factors for this disease. It has no race or age predilection, and occurs in premenopausal as well as postmenopausal women. It has never been reported in men. A positive family history is not present over 50 percent of the time. However, higher incidences of inflammatory carcinoma of the breast ranging from 25 to 55 percent have been reported in other countries.[2] This raises the questions of whether noninflammatory carcinomas are being misdiagnosed as inflammatory or whether there could be epidemiological factors that may reflect on the patient population. In either case, this may affect the results of the management.

Inflammatory carcinoma of the breast is a clinical entity characterized by acute onset of erythema, edema, and increase of the local heat of the skin of the breast. The onset may mimic acute mastitis, a condition from which it should be differentiated. The extent of the erythema and edema may vary. According to the Institute of Gustave-Roussy, if the erythema and/or edema involves the whole breast, it is referred to as PEV3. On the other hand, if the erythema and/or edema are localized, it is called PEV2. Such differences may reflect on the survival.[3]

In most instances, the onset may be accompanied by painful tender breast. The physical examination may reveal a hard mass in the breast 50 to 60 percent of the time, however, the clinical manifestations of the disease may be present with no palpable breast masses.

Inflammatory carcinoma of the breast tends to metastasize early in the course of the disease to the regional lymph nodes as well as systemically. Therefore, the patient usually presents with palpable axillary lymph nodes, and sometimes with enlarged supra-clavicular lymph nodes. The clinical course of the disease is fast and progressive. If left untreated, it will ulcerate and fungate through the skin of the breast within weeks from the onset.

Rare forms of presentation may include concomitant inflammatory carcinoma of both breasts or local recurrence after mastectomy in the skin flaps over the anterior chest wall. Mammography and thermography play no major role in establishing the diagnosis. Mammography usually reveals nonspecific opacification of the involved breast. Thermography expresses heat in the affected breast. Neither test can differentiate inflammatory carcinoma from acute mastitis.

Diagnosis

Inflammatory carcinoma of the breast is not a pathological diagnosis but a clinical one. Therefore, the pathologist will not report such diagnosis. Histopathologically, it is a poorly differentiated carcinoma of the breast. It usually presents with invasion of the lymphatic and blood vessels of the subcutaneous tissue and skin. However, the presence of erythema of the skin clinically and breast carcinoma on biopsy will establish the diagnosis even if no tumor emboli are noted in the blood vessels or lymphatics of the subcutaneous tissue and skin. While the majority of the patients, if not all, will have regional lymph node metastases, over one third will have gross evidence of distant metastases at the time of the diagnosis. Therefore, the disease can be considered as a systemic disease from the start.

Prognosis

The overall prognosis is poor. The disease has a potential for early local invasion and early regional and systemic metastases. The extent of the erythema and edema of the skin of the affected breast may reflect on the prognosis.[3] Controversy still exists on the diagnostic and prognostic values of the presence or absence of tumor in the lymphatics and blood vessels of the subcutaneous tissue and skin of the breast. Another poor prognostic sign is the presence of axillary lymph node metastases in most of the patients at the time of diagnosis. As mentioned before, over one-third of the patients have gross evidence of distant metastases initially, which again carries very poor prognosis. Futhermore, over 80 percent of these tumors are estrogen and progesterone receptor negative.[4] The other 20 percent who have estrogen or progesterone receptors positive (that is, 10 fml/mgm protein or higher) have low levels of positivity. Finally, failure to respond to the initial therapy signifies extreme short survival.

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The Role of the Medical Monitor

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Increasingly, physician-employees are **not** semi-retired doctors opting out of physically demanding practices but are recently qualified board-certified or board-eligible specialists and subspecialists (some straight from residency and fellowship programs) who are excited by the challenges of this new career option. The medical monitor position combines the intellectual stimulation of basic science and preclinical research with the opportunity to be on the cutting edge of medical advancement and work with the clinicians who will shape the practice of medicine in the 1990s and beyond.

The medical monitor in a new job usually starts by taking over an ongoing study. The new industry physician learns how to visit study sites and how to examine case report forms for completeness and accuracy. The new monitor ensures that no protocol violations have occurred and that no serious adverse reactions have been overlooked.

As the medical monitor gains experience, some activities may be delegated to a clinical research associate, freeing the monitor to concentrate on other tasks such as writing new protocols, starting new trials, and evaluating, reporting, and presenting results from previous studies. Other activities include writing development plans for new products coming form the labs and writing all-important New Drug Applications (NDAs) to obtain FDA approval for marketing new pharmaceutical products in the United States.

Meanwhile, the medical monitor follows the relevant medical literature, attends major scientific meetings of his or her specialty, and consults with leading authorities on the disease or diseases targeted by the new medication. This may entail traveling around the country or around the world. If the drug is a very new one and as development proceeds, there probably will be a time when the medical monitor knows more about that drug than anyone else on earth.

Before a new trial begins the medical monitor and community physician investigator usually work together at pre-trial meetings to acquaint the monitor with the site and to iron out final protocol details. The monitor usually visits the site at intervals during the study and again at the end of the study for close-out. In addition, there probably will be some telephone conversations to discuss adverse experiences and to decide what to do with the occasional patients who don't quite fit or do not fit the protocol's inclusion/exclusion criteria.

Finally—if the study and the program are successful—medical monitor and investigator will meet once more, this time to discuss the journal article, symposium presentation, or NDA submission that may someday serve to introduce another new drug to patients and community physicians.

ELINOR MILLER MD

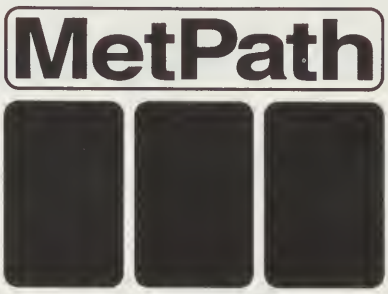
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Doctor, What causes the brown spots on my shins? If they are scars from bruises, why do they not go away gradually? Are they related to my diabetes?

Small (about 5 to 12 mm in diameter) round brownish, atrophic, and circumscribed lesions on the skin of the lower extremities have been noted in diabetic patients for many years. They may be isolated or in groups, vary in number, and are usually bilateral. They are not painful and do not ulcerate. Patients often assume they are the result of an injury but often cannot recall any trauma to the area.

There seems to be an increased frequency of these lesions with an increased duration of diabetes. They are twice as common in males as in females. They rarely are observed in people without diabetes. Almost all patients with this dermopathy commonly called "shin spots" also have retinopathy and peripheral vascular disease. It has been suggested that the small blood vessel lesions in this condition are the same as those seen in Necrobiosis Lipoidica Diabeticorum (NLD) but at an earlier stage and with much less severity of the collagen changes. However, on inspection, there seems to be no surface relationship between the two conditions. NLD is seen almost exclusively in females with diabetes.

No specific treatment is known or indicated. If the spots are cosmetically objectionable, a skin cover preparation can be used. If your diabetes is not well controlled, better control is certainly indicated. However, even with excellent control, the brown spots probably will not disappear or change in appearance.

De WITT E. De LAWTER MD
Editor ■

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Consultation, a radio program sponsored by the Medical and Chirurgical Faculty of Maryland allows Med Chi physicians to appear each week on the program to discuss the latest developments in medicine and to answer questions about health issues. Med Chi currently airs two sessions of Consultation:

Saturday Evening Consultation
A live program
Saturday from 5:00 to 6:00 p.m. and 6:00 to 7:00 p.m.
Broadcast across the country
An hour-long program
Call-In format: Physician answers questions from listeners

Sunday Morning Consultation
A pre-taped program
Sunday at 7:30 a.m.
Broadcast on WBAL - AM radio
A half-hour program
Interview format: one-on-one talk with John Stupak

Med Chi encourages all physicians to appear on these innovative programs. To register fill in the form below.
Yes, I am interested in speaking on Consultation. Please contact me with scheduling information.

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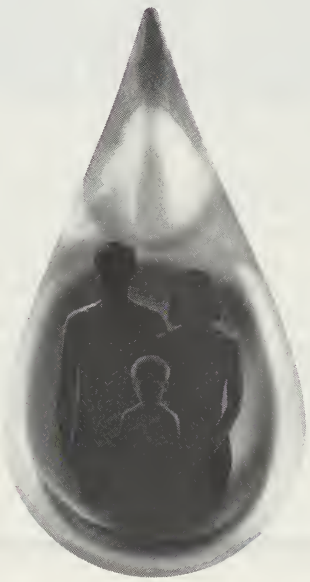
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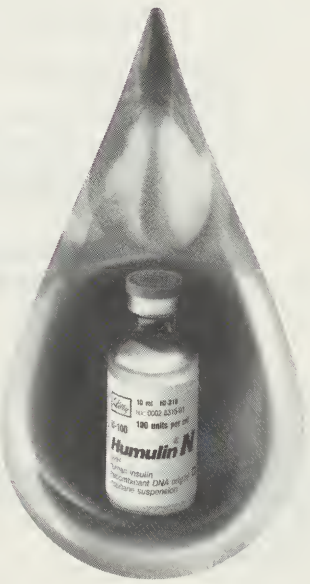
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Medicine in the Soviet Union

This past summer we traveled to the Soviet Union with a group from the Southern Medical Association. As a spouse, I did not attend the Physicians Seminars. However, during group discussions led by the Cultural Consultant and tour guides I did learn something about Soviet medical care. Some of the questions asked and the answers given were as follows:

How does one get to be a physician?
A person applies for a qualifying examination for Medical School. If one passes that exam he/she is automatically accepted and all schooling is free. Approximately 80 percent of Soviet physicians are female.

How does one get to be a specialist?
After applying to take a qualifying examination and passing, one proceeds with the specialized program. If one fails the exam, he or she continues working at the current level of training or reapplies for another qualifying exam at any time either in the same or another field of medicine.

Is it true that a bus driver gets a greater salary than a physician? Why?
A bus driver gets about 300 rubles ($450) per month and a physician 200 rubles per month. The rationale is that the physician's occupation is more satisfying than that of a bus driver. So 200 rubles plus satisfying reward of patient care equals 300 rubles, the salary of the bus driver. Remember the training for both is free. Committees of trade organizations adjust wages, and they are revised constantly but very little at one time.

Can a pregnant woman get an abortion?
Anytime a pregnant woman requests an abortion it is done. The total population of Russian women average seven abortions per lifetime. Russian people cannot understand all the discussion Americans have about abortions. Planned parenthood types of programs are just beginning to be available.

Who decides when a patient is to be admitted or discharged from a hospital?
The physician decides. Who else is capable of making that decision?

If a patient feels he/she has been mistreated by a physician or a hospital, what recourse is there?
A patient may change from one physician to another just by having records transferred. If a patient feels that he/she has been mistreated by a physician or a hospital he/she may file a complaint with a medical review board. If the board finds the physician or hospital did mistreat a patient a penalty is assessed and the money goes to the state, just as does a fine for "speeding" in the United States. The patient gets nothing.

Do you have a shortage of medical equipment?
There is a severe shortage of currently used medical equipment and of access to that equipment, but the situation is improving.

Is acupuncture used much?
Acupuncture is being evaluated mostly in the area of research at this time. It is not commonly used. (This applies to Moscow and Leningrad. What happens in other Soviet states is not known.)

How many nurses are assigned to how many patients?
On one general medical floor there is one nurse to care for forty patients. All patients go to a dining room on the same floor for meals.

Do patients wear identification bracelets?
No, we know our patients well from our close contact with them and such identification is not necessary.

As one can observe from our questions, there are differences in medical care between the United States and the Soviet Union. In the area of who determines when a patient enters or leaves a hospital the Soviets are ahead, but in medical equipment and supplies we are ahead.

One last interesting point, Hospital #28 in Leningrad is situated in the center of a large cemetery. We were told that the cemetery dates to the early nineteenth century while the hospital is only 50 years old.

HELEN R. De LAWTER

Auxiliary to the Medical and Chirurgical Faculty of Maryland. Mrs. Victoria Cameron, President; Mrs. Betty J. Molz, Editor. ■

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are sought to assist in sorting and processing the Picture Collection and the Bookplate Collection. If you or someone you know is interested, please contact Bill Sleeman in The History of Medicine Collection 301-539-0872.

MRI UPDATE

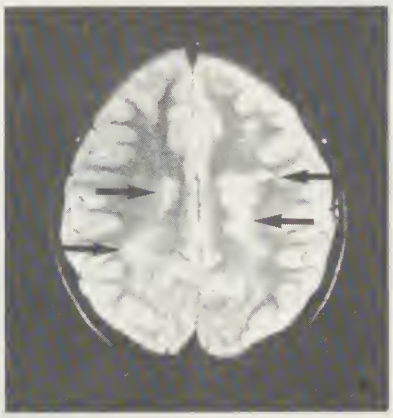


Figure 1

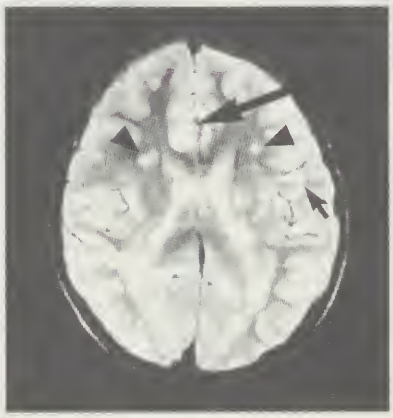


Figure 2

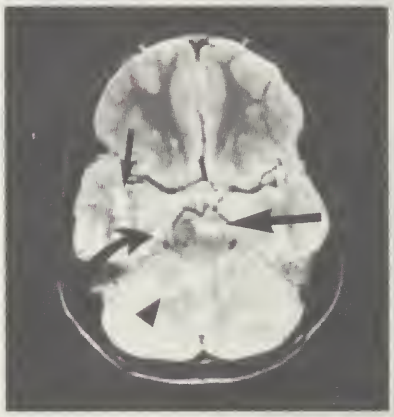


Figure 3

CLINICAL INFORMATION: Recently, there has been much discussion in the literature of the neurological symptoms caused by the spirochete borrelia burgborferi. The disease is transmitted by a tick bite and is associated with clinical symptoms of headaches, multiple arthralgias, and non-specific neurological symptoms. Given the appropriate clinical history, a diagnosis of Lyme disease can readily be confirmed by an MR scan.

FINDINGS: Figure 1 is a T2-weighted axial image through the brain. Abnormal focal areas of increased signal intensity can be identified within the centrum semiovale bilaterally (small arrows). These lesions are primarily located within the white matter but are of differing sizes. Figure 2 is also an axial image through the brain but at a level through the lateral ventricles. This section shows a lesion located within the medial gray matter of the right frontal lobe anterior to the corpus collosum (large arrow). Additional areas of abnormal increased signal intensity can be identified adjacent to the occipital horns, in the gray-white matter interface of the left parietal operculum (small arrow), and in the deep white matter of the frontal lobes in the region of the anterior corona radiata (arrowheads). Figure 3 is through the posterior fossa as well as the lower frontal and temporal lobes. Abnormal areas of increased signal intensity are demonstrated in the left anterior pons (large arrow) in the anterior right temporal lobe (small arrow), in the right cerebellar peduncle (arrowhead), and in the medial right temporal lobe (curved arrow).

The MR images clearly demonstrate the predominantly white matter involvement, multi-focal nature, and the absence of mass effect associated with these lesions. In the absence of clinical history, the MR appearance would be most consistent with a demyelinating process such as multiple sclerosis. However, as this case presented in a nine year old male following exposure to ticks, the differential diagnosis becomes that of Lyme disease. The diagnosis was further confirmed by the findings of similar, although less extensive lesions, in the patient's sibling.

COMMENT: The patient in the case above had a CT scan prior to the MR study which was negative. This case clearly demonstrates the increased sensitivity of MR over CT in detection of white matter processes. However, the case also demonstrates the relative non-specificity of the findings. In this case, the clinical history was most important in determining the true etiology of the patient's findings.

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AMA Dr. Nathan Davis Awards Banquet.

Seated (left to right): Mrs. Angelo Troisi; Med Chi President Raymond M. Atkins MD; Mrs. Hilda Mae Snoops; The Honorable Edgar P. Silver; Maryland Governor William Donald Schaefer; AMA President Alan R. Nelson MD; and, US Congressman Roy J. Rowland (D-GA). Standing (left to right): Mr. Joseph DeFrancis; Med Chi Executive Director, Angelo J. Troisi; Mrs. Alan R. Nelson; Maryland Senate President V. Mike Miller; and, Mrs. Roy J. Rowland.

AMA Honors Governor Schaefer for Outstanding Public Service

In October 1989, as a result of Med Chi's nomination, Maryland Governor William Donald Schaefer became one of the first recipients of the American Medical Association's Dr. Nathan Davis Award for Outstanding Public Service.

The AMA initiated the Dr. Nathan Davis Awards, named after the founder of the AMA, to recognize contributions by public servants promoting the art and science of medicine and the betterment of public health. It seems appropriate that this distinguished award should be presented to Maryland's most preeminent public servant because the AMA held its first official meeting in Baltimore in 1849.

Med Chi nominated Governor Schaefer for this award because of his consistent actions as an outstanding friend to the people in promoting quality health care. One of the Governor's first challenges after assuming office in January 1987 was dealing with skyrocketing liability insurance premiums that were forcing many Maryland physicians out of the practice of medicine. Since obstetricians were most severely affected, a group of obstetric patients in a small rural town asked the state for help. The Governor quickly gathered representatives from Med Chi, the Maryland Hospital Association, as well as other health care organizations and traveled to Easton where he spoke reassuringly to the expectant mothers and personally assured them he would do everything possible to maintain the physician/patient relationship and continue to provide an environment where physicians and patients can enjoy confidence in one another.

Because of this experience, tort reform became one of Governor's Schaefer's top legislative priorities. In 1988, after the preliminary defeat of a malpractice reform bill, he again consulted with physicians from the Medical and Chirurgical Faculty of Maryland and later used his leadership to insure that this bill and concomitant pieces of legislation were reexamined. Due to his personal involvement, a measure was passed that significantly reduced soaring malpractice insurance premiums.

His concern for the liability insurance plight of physicians and patients was evident again in November 1988 when he announced that, as a result of his tort reform, the largest insurer of private practice physicians in the state would provide a discount to its

policyholders who renew their policies in 1989. Maryland physicians are still feeling the effects of this tort reform today. In October 1989, the Medical Mutual Liability Insurance Society announced that it will offer a 20 percent dividend credit to all its members who renew their policies in 1990.

During the 1988 Maryland General Assembly, Governor Schaefer reiterated his concern for the patient and improved the state's medical disciplinary system by creating the board of Physician's Quality Assurance and by budgeting additional funds to strengthen the role of practicing physicians in conducting peer review as volunteer agents of the state.

During the 1989 legislative session, Governor Schaefer initiated many changes in current law while supporting the defeat of any change that would erode the quality of health care for Maryland citizens. His concern for the environment prompted him to support a bill prohibiting smoking in hospitals and another bill that would increase the fine for illegal dumping of infectious medical waste.

The spread of the AIDS virus led Governor Schaefer to appoint an advisory council on AIDS in 1987 that introduced an omnibus AIDS bill in 1989, which he strongly supported. Recently he signed bills prohibiting health professionals from discriminating against persons testing positive for HIV infection and making it a misdemeanor to knowingly spread the virus that causes AIDS.

Governor Schaefer spearheaded a war against drugs that spread through the Maryland legislature and resulted in the passing of several new drug laws including a law that allows authorities to seize the licenses of drunken drivers or drivers who refuse to take a blood-alcohol test. In addition, he introduced a package of bills that increases the penalties for drug "kingpins," broadens state authority to seize dealers' assets, sets stiff penalties for dealing near schools, and increases the authority of prosecutors to compel testimony by granting immunity.

In May 1989 Governor Schaefer held Maryland's first statewide drug summit where over 500 Maryland leaders met to develop new strategies to combat Maryland's drug problem. The conference resulted in an increased awareness of the scope of Maryland's drug problem and set forth guidelines for several new antidrug programs throughout the state. A second drug summit was scheduled to take place in November 1989.

The Governor's extensive legislative efforts and special programs throughout his term demonstrate his high regard for the health of Maryland citizens and show that the preservation of high professional standards are a top priority on his governing agenda. His efforts to insure the highest quality of medical practice and his courageous stands against formidable odds illustrate his strong support for the practice of medicine and the betterment of public health in Maryland.

The 1989 recipients of the Dr. Nathan Davis Award represent individuals who have significantly advanced the well being of the pubic health. Governor Schaefer was honored with other notable public figures including former Surgeon General C. Everett Koop MD, California US Representative Henry Waxman, and Former Senator Lowell Weicker from Connecticut. ■

Statement of Ownership, Management, and Circulation

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Total 7,598; average 7,547.

The Big Deception. How Psychotherapy and Counseling Really Work. David W. Shave. Malabar, FL: Robert E. Krieger Publishing Co., Inc., 1989, 306 pp.

Our Salisbury, Maryland, colleague has written "specifically for the practicing psychotherapist or counselor," however, this book will prove of interest to many who share more generally an interest in areas of emotional health.

Throughout this well-written presentation Shave vigorously pursues his basic thesis that oral dependency needs and their vicissitudes are the significant features in emotional development, emotional comfort, and emotional discomfort. Thus he differs with many psychoanalysts who assign greater significances to sexual needs. This volume has evolved from prior expositions published in 1974, 1975, and 1979, which "provide the basis for this book."

In his carefully reasoned discussions, the author includes numerous illustrative vignettes from his two-and-a-half decades of psychiatric experience. He emphasizes the need for and value of the interested listener in the psychotherapeutic endeavor.

The "big deception" is of both the provider and the consumer, each of whom often fails to perceive the real underlying bases of the presenting problem, diagnosis, therapeutic success (or failure), and contributing relationships, as well as other important complex facets of psychiatry. Shave's excellent updated exposition is well worth reading.

HENRY P. LAUGHLIN MD
Associate Editor ■

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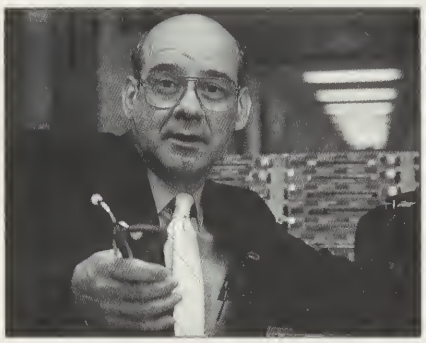
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Include in the manuscript the concise title, full name of the author (or authors) with highest degree, academic and professional titles, affiliations, and any institutional or other credits.

An introductory synopsis/abstract of approximately 100-150 words is required.

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Tables are to be typed on separate sheets of paper, numbered, and have a brief descriptive title. The Editor reserves the right to edit tables. Be sure that statistics are consistent in both tables and text.

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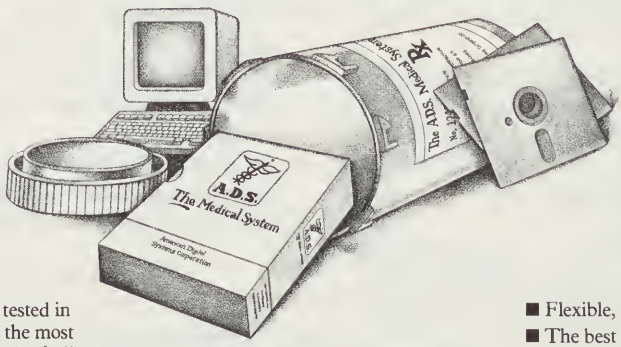
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In the Matter of
Thomas N. Carter MD
Before the
Maryland Board of
Physician Quality Assurance

Intermediary Order
Superseding Board's Order
of June 21, 1988

Background

By Order (attached hereto) dated February 6, 1986 ("1986 Order"), the Board of Physician Quality Assurance ("the Board") successor agency to the Commission on Medical Discipline (the "Commission"), summarily suspended the license of Thomas N. Carter MD ("Respondent") to practice medicine in the State of Maryland. By Order (attached hereto) dated June 21, 1988 ("1988 Order"), the Board found the Respondent guilty of committing a prohibitive act as set forth in Health Occupations Article, *Annotated code of Maryland* §14-504(4), "is professionally...incompetent." Specifically, the Board found that Respondent's cognitive knowledge was deficient with respect to the prescribing of controlled dangerous substances; that Respondent's prescribing practices were deficient in terms of examination, follow-up, and control; and that certain patients, if they were not already addicted to controlled dangerous substances of the type prescribed by Respondent, were caused to continue to maintain their addiction through Respondent's grossly deficient prescribing practices. The Commission found that Respondent's prescribing practices were not undertaken in a fraudulent or deceptive manner to cause or continue addiction but rather that Respondent exercised a gross lack of judgment in treating patients with chronic pain. The Board suspended Respondent's medical license indefinitely pending his successful completion of an approved course in pharmacology. The 1988 Order provided that upon satisfactory completion of an approved course in pharmacology, the Respondent could petition the Board for a stay of the indefinite suspension of his license. The 1988 Order further provided that in the event the Board stayed the indefinite suspension of Respondent's license, Respondent could apply for reinstatement of his license without any conditions whatsoever in three (3) years, conditioned upon Respondent's submitting proof of successful completion of probation. By petition dated February 9, 1989, Respondent petitioned the Board to stay the indefinite suspension of his license and place him on probation.

Finding of Fact

Based on information known and available to it, the Board finds that:

1. On October 17, 1988 Respondent entered a retraining program in pharmacology at the Medical College of Pennsylvania, the nature, scope, and terms of which were approved by the Commission. The Commission received evidence in writing dated october 24, 1988 from the Assistant Director of Operations at the Medical College of Pennsylvania agreeing to provide bi-monthly evaluations of Respondent's progress.
2. Respondent submitted evidence that he had successfully completed the course set forth above on December 9, 1988.
3. On July 12, 1989, the Board voted to accept Respondent's completion of the retraining program at the Medical College of Pennsylvania Medical School s the condition precedent to petitioning the Board for a stay of the indefinite suspension of his license.

Conclusions of Law

The Board concludes, as a matter of law, that Respondent successfully completed the condition precedent to petitioning the Board for a stay of the indefinite suspension of his license to practice medicine in Maryland.

Order

Upon the foregoing Findings of Fact and Conclusions of Law, effective 12th day of July 1989, it is this 18th day of September 1989

ORDERED that the indefinite suspension is hereby TERMINATED; and be it further

ORDERED that Respondent's license is suspended and that this SUSPENSION is immediately STAYED; and be it further

ORDERED that Respondent is placed on three (3) years probation from July 12, 1989 during which time Respondent's medical practice shall be evaluated every six (6) months with the first report due January 15, 1990. These peer reviews will emphasize but not be limited to the prescribing and recordkeeping aspects of Respondent's medical practice; and be it further

ORDERED that on July 12, 1992, the Board will entertain a petition for termination of Respondent's probationary status and reinstatement of Respondent's license to practice medicine in Maryland without any conditions or restrictions whatsoever. If Respondent has successfully complied with all conditions of probation and if there are no outstanding complaints or adverse peer review reports against Respondent, the Board will terminate the Conditions of Probation and reinstate Respondent's license without any conditions or restrictions whatsoever. However, if the Board determines that termination of probation is not appropriate, the Board may extend the probationary period and may modify one or more

conditions upon which Respondent was placed on probation; and be it further

ORDERED that this is a Final Order.

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

■ ■ ■

In The Matter of
Grace Yuncha Chong MD
Before the
Maryland Board of
Physician Quality Assurance

Consent Order
Background

On July 12, 1989, the State Board of Physician Quality Assurance (the "Board") charged Grace Yuncha Chong, MD ("Respondent") with violation of the Maryland Medical Practice Act (the "Act"), Title 14, Health Occupations Article, *Annotated Code of Maryland*. Specifically, the Board charged Respondent under §14-504(a)(3) of the Act which states:

> Subject to the hearing provisions of S14-505 of this subtitle, the Board, on the affirmative vote of a majority of its full authorized membership, may reprimand any licensee, place any licensee on probation, or suspend or revoke a license if the licensee is guilty of immoral unprofessional conduct in the practice of medicine.

Specifically, the Board charged that Respondent did not provide general supervision to a registered acupuncturist in accordance with S14-605 of the Act and COMAR 10.32.05.08A(2) and (3).

Section 14-605(a)(3) of the Act provides that "general supervision" means the supervising, licensed physician shall:

> (1) Perform or review the results if a recently performed medical diagnostic examination with respect to any ailment or condition to be treated by acupuncture prior to such treatment;
> (ii)Be personally available for consultation on the premises or be available by telephone contact, chart review, or buy other means approved by the Board; and
> (iii) If required as a matter of sound medical practice, place conditions and restrictions on the course of treatment.

COMAR 10.32.05.08A provides:

> (2) In relation to the acupuncture patient, the supervising licensed physician shall:
> (a) Perform or review the results of a recently performed medical diagnostic examination with respect to any ailment or condition to be treated by acupuncture before the treatment.
> (b) Advise the patient of the results of the medical diagnostic examination and the treatment alternatives;
> (c) If required as a matter of sound medical practice, place conditions or restrictions on the course of treatment in acupuncture;
> (d) Advise the patient in writing that if the ailment or condition worsens or if a new ailment or condition appears, the patient should consult with his personal physician or any other licensed physician;
> (e) Advise the patient to consult with his physician if the course of treatment does not improve the condition during an estimated time provided by the acupuncturist at the initiation of treatment;
> (f) Advise the patient in writing that the supervising, licensed Physician is available at reasonable times for consultation by appointment or by telephone, and the written notice shall contain an address and telephone number at which the physician can be reached;
> (g) Advise the patient in writing that the supervising, licensed physician is not an acupuncturist and not qualified to direct the course of acupuncture treatment an does not have responsibility for the course of the acupuncture treatment.
> (3) The items set forth in §A(a)(d)-(g) above, shall be included in an informed consent from signed by the patient.

On August 2, 1989 settlement conference was held. As a result of negotiations entered into during the settlement conference, Respondent agreed to the following consent order.

Findings of Fact

1. At all times relevant to this Order, Respondent was and is currently licensed to practice medicine in Maryland.

2. On December 26, 1984, an applicant for registration as an acupuncturist submitted an affidavit to the Board of Medical Examiners ("BME") which was signed by Respondent as the supervisory physician. The affidavit stated:

> We have read the Acupuncture Regulations, COMAR 10.32.05 and will fulfill the responsibilities as set forth in the regulations for acupuncturists and for the supervisory physician.

3. On January 30, 1985, BME registered the acupuncturist with Respondent as the supervisory physician.

4. On June 9, 1987, Patient A* sought acupuncture treatment from the acupuncturist whom Respondent was supervising. The acupuncturist performed acupuncture on June 9, 12, and 16, 1987. A review of Patient A's records revealed that there was no written consent signed by Respondent and Patient A. Respondent did not give written approval to the acupuncturist to initiate acupuncture treatment.

5. Respondent agrees to plead guilty to immoral and unprofessional conduct in the practice of medicine because Respondent did not provide general supervision to a registered acupuncturist in accordance with §14-605 of the Medical Practice Act and COMAR 10.32.05.08A(2) and (3).

Conclusions of Law

Based upon the findings of Fact, the Board concludes as a matter of law that Respondent did violate Md. Health Occ. Code Ann. §15-504(a)(3) (1988 Cum. Supp.) and finds Respondent guilty of immoral or unprofessional conduct in the practice of medicine

*Patient names were not used in the Charging Document. The Board maintains a list of patient names which corresponds to the alphabetical letter used in the Charging document. The list was available to Respondent upon request.

because Respondent failed to provide general supervision to a registered acupuncturist in accordance with S14-605 of the Act and COMAR 01.32.05.08A(2) and (3).

Order

Based on the foregoing Findings of Fact and Conclusions of Law, it is this 16th day of August 1989,

ORDERED that Grace Yuncha Chong MD, a physician licensed to practice medicine in Maryland, is hereby formally REPRIMANDED; and; it is further

ORDERED that the Board accepts Respondent's voluntary assurance that Respondent will no longer supervise Hwal Chin Chong, a registered acupuncturist; and it is further

ORDERED that the Board accepts Respondent's voluntary assurance that Respondent will not apply to supervise any other acupuncturist for a period of three (3) years; and be it further

ORDERED that any public disclosure of the foregoing Findings of Fact and Conclusions of Law shall consist of the contents of this Order as permitted by Md. State Government Article Code Ann. §10-617(h)(1984).

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

Consent

By this Consent, I hereby accept and agree to be bound b the foregoing Order and its conditions and restrictions.

1. By signing this Consent, I hereby submit to this Order and its conditions. I acknowledge the Board's jurisdiction and the validity of this Order as if made after a hearing at which I would have had the right to counsel, to confront witnesses, to give testimony, to call witnesses on my own behalf, and to all other substantive and procedural protection provided by law. I also recognize that I am waiving my right to appeal any adverse ruling of the Board that might have followed any such hearing. By this Consent, I waive all such rights.

2. I understand that if I fail to comply with the conditions enumerated above, I may suffer disciplinary action against my license to practice medicine in the State of Maryland.

3. I sign and consent to this Order after having an opportunity to consult with counsel and with full understanding of the meaning and terms of the Order.

GRACE YUNCHA CHONG MD

■ ■ ■

In the Matter of Hwal Chin Chong RA Before the Maryland Board of Physician Quality Assurance

Consent Order Background

On July 12, 1989, the State Board of Physician Quality Assurance (the "Board") charged Hwal Chin Chong RA ("Respondent") with violation of COMAR 10.32.04.09A adopted pursuant to the Board's authority* under Md. Health Occ. Code Ann.§14-605 (1988 Cum Supp.). Section 14-605 provides that subject to the hearing provisions of §14-505, the Board, on the affirmative vote of its full authorized membership, may reprimand or place an acupuncturist on probation or suspend or revoke the registration of an acupuncturist for any conduct prohibited under any regulation adopted pursuant to this section.

The pertinent provisions of COMAR 10.32.04.09A under which Respondent was charged provides as follows:

(1) In relation to the acupuncture patient, the registered acupuncturist shall:
  (a) Have received in writing from the supervising, licensed physician approval to initiate acupuncture treatment;
  (c) Obtain a copy of the signed consent required under COMAR 10.32.05.08A(3); and
  (g) Comply strictly with sterilization standards relative to aseptic practices.

COMAR 10.32.05.08A(3) provides that the supervising, licensed physician shall in an informed consent form:

(1) advise the patient in writing that if the ailment or conditions worsens or if a new ailment or condition appears, the patient should consult with his personal physician or any other licensed physician;
(2) advise the patient to consult with his physician if the course of treatment does not improve the condition during an estimated time provided by the acupuncturist at the initiation of treatment;
(3) advise the patient in writing that the supervising, licensed physician is available at reasonable time for consultation by appointment or by telephone, and the written notice shall contain an address and telephone number at which the physician can be reached; and
(4) advise the patient in writing that the supervising, licensed physician is not an acupuncturist and not qualified to direct the course of acupuncture treatment and does not have responsibility for the course of acupuncture treatment.

On August 1, 1989, a settlement conference was held. as a result of negotiations entered into during the settlement

*The 1988 General Assembly, by Senate Bill No. 508 and House Bill No. 855, merged the functions of the former Commission on Medical Discipline and the former Board of Medical Examiners into the new Board of Physician Quality Assurance. Section 3 of the new legislation provided that all regulations, proposed regulations, standards, and guidelines, transferred by the Act shall continue in effect under the State Board of Physician Quality Assurance until withdrawn, cancelled, modified, or otherwise changed pursuant to law.

conference, Respondent agreed to the following Consent Order.

Findings of Fact

1. At all times relevant to this Order, Respondent was and is currently registered to practice acupuncture in Maryland.

2. Respondent agrees to plead guilty to a violation of COMAR 10.32.05.09A(1)(a) failing to receive in writing from Respondent's supervising, licensed physician approval to initiate acupuncture treatment; and (c) failing to obtain a copy of the signed consent required under COMAR 10.32.05.08A(3).

3. Respondent agrees to voluntarily surrender his registration to practice as an acupuncturist in Maryland on August 17, 1989.

4. On June 9, 1987, Patient A** sought acupuncture treatment from Respondent for headaches and low back pain. Respondent performed acupuncture on June 9, 12, and 16, 1987. A review of Patient A's records revealed that there was not written consent signed by the supervising physician and Patient A; Respondent did not have written approval from the supervising physician to initiate acupuncture treatment.

6. On February 24, 1989, inspectors from the Board visited Respondent's office at 501 Stevenson Lane, Towson, Maryland. Respondent produced patient records, which consisted of a diagram showing needle insertion points. There was no medical data recorded. There was no patient consent form. There was no approval from the supervising licensed physician to initiate acupuncture treatment.

Conclusions of Law

Based on the Findings of Fact, the Board concludes as a matter of law that Respondent did violate COMAR 10.32.05.09A(1)(a) and (1)(c) by failing to receive in writing from the supervising, licensed physician approval to initiate acupuncture treatment and by failing to obtain a copy of the signed consent required under COMAR 10.32.05.08A(3).

The Board concludes that there are no grounds for action under COMAR 10.32.05.09A(a)(g) and hereby DISMISSES the charge pursuant to Md. Health Occ. Code Ann. §14-506(b) (1988 Cum. Supp.)

Order

Based on the foregoing Findings of Fact and Conclusions of Law, it is this 16th day of August 1989,

ORDERED that the Board accepts Respondent's voluntary surrender of his registration to practice acupuncture in the State of Maryland; and be it further

ORDERED that Respondent shall not practice as an acupuncturist until such time as he applies for reinstatement of his registration to practice acupuncture. In the event that Respondent applies for reinstatement, the Board has complete discretion to grant or deny Respondent's application. NOTHING IN THIS ORDER SHALL BE CONSTRUED AS A PROMISE BY THE BOARD TO REINSTATE RESPONDENT'S REGISTRATION TO PRACTICE ACUPUNCTURE; and be it further

ORDERED that any public disclosure of the foregoing Findings of Fact and Conclusions of Law shall consist of the contents of this Order as permitted by Md. State Government Article Code Ann. §10-617(h)(1984).

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance

Consent

By this Consent, I hereby accept and agree to be bound by the foregoing Order and its conditions and restrictions.

1. By signing this Consent, I submit to this Order and its conditions. I acknowledge the Board's jurisdiction and the validity of this Order as if made after a hearing at which I would have had the right to counsel, to confront witnesses, to give testimony, to call witnesses on my own behalf, and to all other substantive and procedural protection provided by law. I also recognize that I am waiving my right to appeal any adverse ruling of the Board that might have followed any such hearing. By this Consent, I waive all such rights.

2. I sign and consent to this order after having an opportunity to consult with counsel and with full understanding of the meaning and terms of the Order.

HWAL CHIN CHONG RA

■ ■ ■

In the Matter of William A. Landes MD Before the Maryland Board of Physician Quality Assurance

Order Terminating Probation and Reinstating License

Background

By Order (attached hereto) dated December 16, 1980 ("1980 Order"), the Board of Physician Quality Assurance (the "Board"), successor agency to the Commission on Medical Discipline, suspended the license of William A. Landes MD (the "Respondent") to practice medicine in the State of Maryland. By Order (at-

**Patient names were not used in the Charging Document. The Board maintains a list of patient names which corresponds to the alphabetical letter used in the Charging Document. This list was available to Respondent upon request.

tached hereto) dated May 5, 1981 ("1981 Order"), the Board found the Respondent guilty of committing a prohibitive act as set forth in Health Occupations Article, *Annotated Code of Maryland* §14-504. Specifically, the Board found that Respondent was guilty of addiction to narcotics or controlled dangerous substances [recodified as §14-504(a)(8) of the Health Occupations Article]. The Board revoked Respondent's medical license, immediately staying the revocation, conditioned upon the Respondent complying with terms and conditions (the "Conditions of Probation"). The Order further provided that if Respondent successfully completed his residency training program, the Board would entertain a petition for reinstatement of his medical license without any restriction or condition.

Findings of Fact

Based on the information known and available to it, the Board finds that:

1. In April 1988 Respondent applied for reinstatement of Respondent's license to practice medicine in Maryland. To document drug abstinence, Respondent provided the Board with evidence of voluntary participation and successful completion of a six (6) month urine screening program by the Committee for Physicians' Health Program of the Medical Society of the State of New York.

2. On September 14, 1988 the Board voted unanimously to reinstate Respondent's license to practice medicine in Maryland effective October 1, 1988. The material reviewed at that time included information which documented Respondent's recovery for six (6) years and that Respondent's prognosis for continued recovery was favorable.

3. Because Respondent had not petitioned the Board for an Order for Reinstatement and Termination, no reinstatement and termination order was issued. Respondent was informed of this, and on June 1, 1989 Respondent petitioned the Board for an Order that would terminate the conditions of probation and reinstate Respondent's license to practice medicine in Maryland.

4. At its meeting on June 28, 1989 the Board reviewed Respondent's petition. Although Respondent has not fulfilled the conditions of probation contained in the 1981 Order, the Board recognized that Respondent had truthfully and fully provided the Board in September 1988 with all information concerning Respondent's licensure status and concluded that no further action was necessary in light of the previous action to reinstate Respondent's license without restriction. The Board by this conclusion terminated the conditions of probation imposed in the 1981 Order.

Conclusions of Law

The Board concludes, as a matter of law, that Respondent's license to practice medicine in Maryland was reinstated effective October 1, 1988. Based on Respondent's reinstatement, the Board concluded that no further action is required on the Order of May 5, 1981.

Order

Upon the foregoing Findings of Factand Conclusions of Law, it is:

ORDERED that effective the 28th day of June 1989, the Conditions of Probation imposed upon Respondent's practice of medicine by the Board's 1981 Order are hereby TERMINATED and of no further force and effect; and be it further

ORDERED that Respondent's license to practice medicine in the State of Maryland is REINSTATED without any condition or restriction whatsoever; AND IT IS FURTHER

ORDERED that this is a Final Order.

ISRAEL H. WEINER MD, Chairman
Maryland Board of Physician Quality Assurance ■

In Appreciation

The members of the Editorial Board of the *Maryland Medical Journal* are most grateful to various specialists in the Maryland medical community who graciously contribute their time and expertise to the review of manuscripts for our publication. In 1989 the following physicians assisted in *MMJ*'s review process:

JOHN A. KASTOR MD
JOSEPH S. McLAUGHLIN MD
KENNETH B. LEWIS MED
LAWRENCE C. PAKULA MD
MYRON L. WEISFELDT MD
PAUL R. McHUGH MD
BRUCE A. REITZ MD

The Latest Government Figures On Health Care Costs Are In. And They Are Encouraging.



Some misconceptions exist that Medicare costs are spiraling out of sight, and that radical changes are needed to limit Medicare expenditures.

Unfortunately, the figures being quoted—that Medicare costs are increasing 17% a year—are out of date.

Department of the Treasury figures for the year 1988 show an increase of only 5.4%. And the first quarter of 1989, only a 5.2% annual rate.

While we are the first to say that these short term figures in themselves do not establish a trend, we believe that they are very encouraging.

The AMA is committed to improving the health care system and supports many of the proposed changes in the Medicare physician program.

As Congress enacts changes, we urge it to make decisions based on the most recent information available.

American Medical Association

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CME Courses: For each course additional information may be obtained by contacting the Program of Continuing Education, University of Maryland School of Medicine, Room 14-011, BRB, 655 W. Baltimore St., Baltimore, MD 21201 (301-328-3956) or by calling the phone number listed under a specific program.

December 13
Dean's Conference #3: Common Medical Problems, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

January 25
Dean's Conference #4: Common Psychiatric Problems, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

February 23
Dean's Conference #5: Advances in Clinical Therapeutics, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

February 24
Neurology and Music at Maryland - Session II, Reports on epilepsy, pain and recurring disorders, and multiple sclerosis, AIDS, and other neurologic infections. A day of medical education, an evening of entertainment by the Baltimore Symphony Orchestra. Info: Dept. Neurology, UMD, 22 S. Greene St., Baltimore, MD 21201 (301-328-6484).

March 9-10
Third Symposium on Urologic Cancer, Harbor Court Hotel, Baltimore. Fee: $175; 11 AMA Cat I credits.

March 18-20
Twelfth National Trauma Symposium: Cross Roads in Trauma Care...Paving the Way to the 21st Century, Baltimore Convention Center. Info: K. Unitas or T. Young 301-328-2399 or FAX 301-328-8514.

March 22
Dean's Conference #6: New Approaches in the Care of the Elderly, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

April 26
Dean's Conference #7: Advances in Endocrinology, UMAB Campus, Baltimore. Fee: $35; 5.5 AMA & AAFP credits.

June 14-17
Third Annual Trauma Anesthesia and Critical Care Symposium. Pre-symposium workshops on ATLS, ACLS, ABLS, APLS, and CRNAs also will be held. Info: MIEMSS Office of International Development, 11 S. Paca St., Ste 303, Baltimore, MD 21201 (301-328-2399).

Continuously Throughout the Year

Visiting Professor Program - Directory of speakers and topics available for area hospitals and other health care organizations. No administrative fee. Info: 301-328-3956.

Visiting Practitioner Preceptorships - Opportunity for physicians to participate in clinical situations in the University of Maryland Medical Systems. Requires approval from clinical department/division heads. Hour-for-hour Cat I credits available. Direct **all** inquiries to CME 301-328-3956.

Departmental Rounds and Conferences - Weekly, hands-on and lecture presentation hosted by the University's clinical departments. Hour-for-hour AMA Cat I credits available. Brochure available.

Advanced Trauma Life Support Provider/Instructor Programs sponsored by University of Maryland/MIEMSS. Info: M. Nelson 301-328-2919.

Dec 14-15 - Provider

MISCELLANEOUS MEETINGS

December 8-9

Physicians, Family, and Addictions, Royce Hotel, Williamsburg, VA. Sponsored by the Medical Society of Virginia, Physicians Health and Effectiveness Program. Info: J. Douglas 804-353-2721.

May 2-5

American Trauma Society Seventeenth Annual Meeting, Holiday Inn Crowne Plaza, Washington, DC. Info: Meeting Coordinator American Trauma Society, 1400 Mercantile Lane - Ste 188, Landover, MD 20785 (800-556-7890 or 301-925-8811).

Shady Grove Adventist Hospital, 9901 Medical Center Drive, Rockville, MD. Info: 301-279-6000.

December 7 — **Hospice Care**
December 14 — **Medical Management of Recurrent Stone Disease**
January 4 — **Coronary Prone Behaviors: Risk & Modification**
January 11 — **Child Abuse and Neglect: Recognition & Reporting Laws**
January 18 — **Accessing the National Library of Medicine with Your PC**
January 25 — **Anesthesia Safety: The Impossible Dream**
February 1 — **Common Adult Foot Disorders in Orthopedic Practices**
February 8 — **Clinical Implications of the Hepatitis C Assay**
February 15 — **Legal Issues in Medical Practice Today**
February 22 — **Estrogen Replacement Therapy & Controversy**

Physician Recognition Award Recipients

During the months of July through September of 1989, the following physicians received the AMA's Physician Recognition Award. Established in 1968, the award's purpose is to encourage physician participation in continuing medical education and to recognize physicians who have voluntarily completed programs of continuing medical education.

Abrams, Donald Andrew
Adams, Henry George
Adams, Joseph Andrew
Albuerne, Marcelino D.
Alessi, Larry Edward
Allen, Thomas Ernest
Anthone, Gary Joseph
Artiss, Kenneth Leslie
Asuncion, Hector P.C.
Bass, Randale Eugene
Berrebi, Gabriel
Blum, Robert Allan
Brill, Clark Robert
Chertoff, Judith M.
Coyle, William Radford
Crowley, Michael Douglas
De Borja, Pedro Santos
Dubin, Ethan Hiram
Dudley, Albert H.
Felsen, James D.
Flores, Dino Ernesto
Fore, William Whately
Gaarder, Kenneth Ray
Galarraga, Juan Jose
Goldenthal, Karen Lynn
Green, John Gary
Grodin, Douglas Michael
Gross, Sharon Clare
Hill, Claude D.
Hixon, Dena Robette
Hogan, Bartholomew Toner
Howard, Noel Scott
Iqbal, Rafi Q.
Izzi, Stephan R.
Jacobs, Stephen C.
Johnson, Don Robert
Johnson, Walter Taylor
Jones, Stephen Noland
Judman, Allen Herbert
Kohlerman, Nicholas J.
Lai, Maxwell Daniel
Lawrence, James
London, Andrew Monroe
Lucco, Angelo John
Maryanov, Lawrence
Mayle, Francis Carl
McCoy, Catherine F.
Mergner, Wolfgang
Meringoff, Brian N.
Michels, Joseph
Miller, Louis Winaker
Mitchell, Joshua Raymond
Morales, Judith Francisca
Myers, Roy Aaron Mark
Nassiff, Marie Diane
Novoa, Julio Cesar
Patterson, Daniel Young
Renschler, Clarence A.
Risher-Flowers, Debra
Ruehsen-De Moraes, Maria
Sadri, Manouchehr
Satin, Lawrence Z.
Saxena, Virendra Kumar
Shankman, Sidney
Sheridan, Philip H.
Short, Elizabeth M.
Shutta, John Andrew
Silverberg, Stanley M.
Smeets, Ronald Maurits
Tendler, Jacob
Teplitz, Terry Alan
Thibadeau, Robert
Turak, Maryann
Turek, Ibrahim Sait
Veltri, Enrico Paul
Walburn, Jonathan Richard
Williamson, Jeff Douglas
Yang, Edward J.W.
Yannakakis, George
Yoon, In Bae

THE JOHNS HOPKINS MEDICAL INSTITUTIONS

All courses at the Turner Auditorium unless otherwise indicated. Sponsored Continued Education Activities for 1989-90. Info: Office of Continuing Education, 720 Rutland Ave., Turner Auditorium, Baltimore, MD 21205 (301-955-5880).

December 7-9

Second Annual Wilmer Institute Current Concepts in Ophthalmology. Fee: $250, $200 (those in training); 20 AMA Cat I credits. Info: D. Heydinger 301-955-2959.

January 22-26

17th Annual Geriatric Symposium: A Board Review, Stouffer Harborplace Hotel, Baltimore. Fee: $465 before November 10, $540 thereafter; 33.5 AMA Cat I credits, AAFP prescribed hours.

March 19-21

Spectrum of Developmental Disabilities XII: Prematurity: Neurodevelopmental assessment and Intervention Issues. Fee: $395; 20 AMA Cat I credits. Info: J. Nutt 301-955-2959.

March 22-23

Symposium on Dysphagia III: Basic Concepts of Swallowing and Swallowing Disorders. Fee: $350 physicians, $175 residents and allied health professionals; AMA Cat I and other appropriate credits pending. Info: J. Ryan 301-955-2959.

April 2-7

Seventeenth Annual Pediatric Trends. Fee: $550 physicians, $400 residents and fellows; 45 AMA Cat I and 45 PREP credits.l Info: F. Boling 301-955-2959.

Continuously Throughout the Year

Ophthalmic Electrophysiology Technician Training Course (on-going 1-week course by appointment). The Wilmer Eye Institute, Baltimore. Info: C. Kearney.

The Department of Radiology and Radiological Sciences offers several courses in abdominal and obstetrical ultrasound. Info: P. Williams 301-955-3169.

Advanced Practicum in Diagnostic Ultrasound: Dec 4-8. Fee: $500; 40 AMA Cat I credits.

Visiting Physicians - offered throughout the year for experience in the lab and participation in read-in sessions; by appointment only. Fee: $500; 40 AMA Cat I credits.

Johns Hopkins Medical Grand Rounds - Accredited audiovisual continuing education series of case discussion for clinicians; 30 topics/year in 5 bimonthly programs. Individual and group subscriptions; 40 AMA Cat I credits. Info: 301-955-3988.

Microsurgery Training at The Johns Hopkins Hospital, one week, offered continuously throughout the year. 40 AMA Cat I credits. Info: P. Williams 301-955-3169.

Thirty-first Postgraduate Institute for Pathologists in Clinical Cytopathology for Board Certified (or qualified) pathologists as a subspecialty residency. 152 AMA Cat I credits in two courses, **both of which must be taken**.

February-April Home Study Course A, personal reading and microscopic study at own lab in preparation for Course B.

April 23-May 4 In-residence Course B, lecture series, laboratory, and clinical experience at The Johns Hopkins Medical Institutions, Baltimore.

Course A materials will be sent each participant within the US and Canada for home study. Participants *outside* the US and Canada must make arrangements to study Course A before Course B. *The entire course is given in English.*

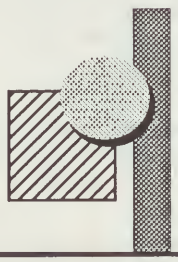
Application and preregistration advised ASAP; preregistration must be completed **before March 23, 1990** unless by special arrangement. Info: J. Frost MD, 111 Pathology Bldg., The Johns Hopkins Hospital, Baltimore, MD 21205 USA (301-955-8594). ■

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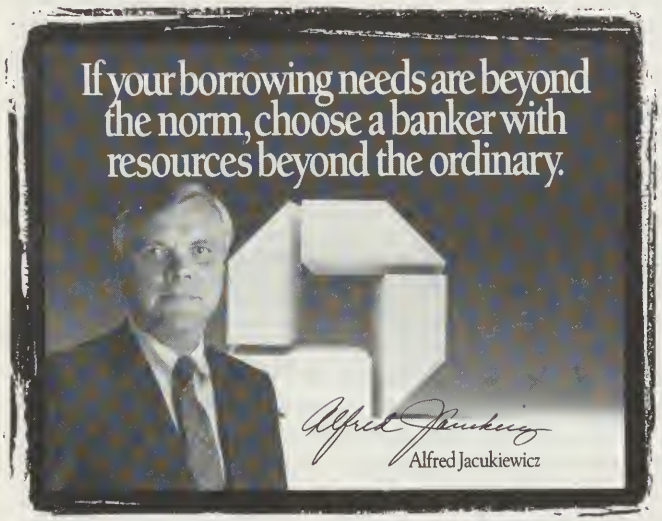


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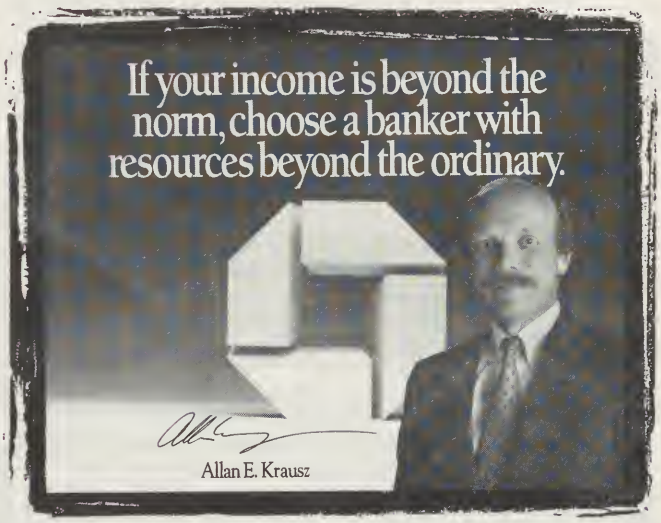
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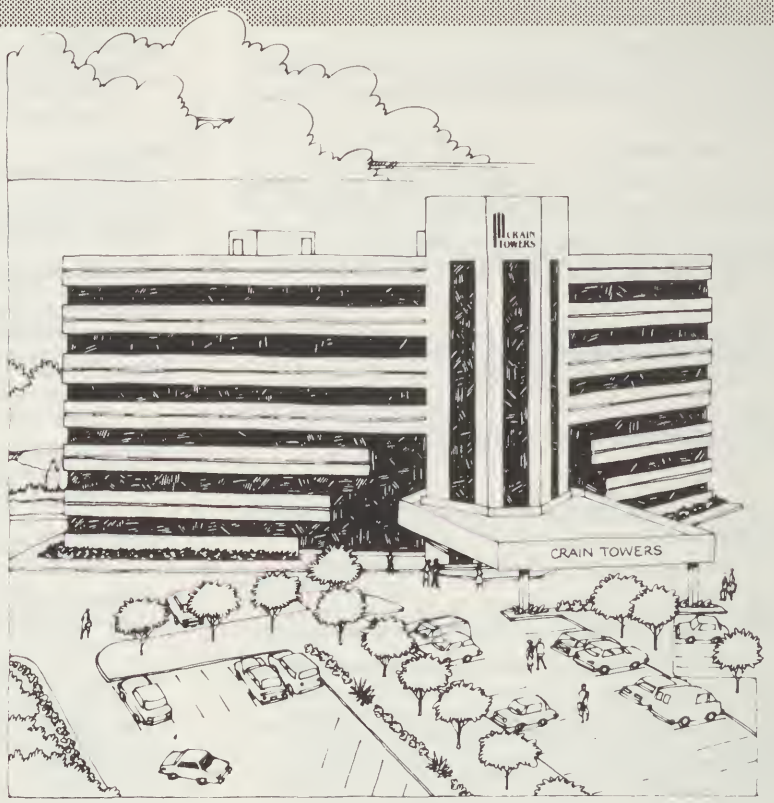
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VASOTEC®

(ENALAPRIL MALEATE | MSD)

VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

Contraindications: VASOTEC® (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: *Angioedema:* Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASDTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL), should be promptly administered.** (See ADVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASDTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIDNS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident.

If excessive hypotension occurs, the patient should be placed in supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASDTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: *General: Impaired Renal Function:* As a consequence ot inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See DDSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% ot hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk tactors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use ot potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASDTEC. (See *Drug Interactions.*)

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. It hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients:

Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose ot enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness especially during the first few days ot therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes ot volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the sate and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions:

Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose tor at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATIDN.)

Agents Causing Renin Release: The antihypertensive effect ot VASDTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence ot clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: A few cases ot lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation ot both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

Pregnancy — Category C: There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters.

There are no adequate and well-controlled studies of enalapril in pregnant women. However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use ot ACE inhibitors has not been clearly defined, VASOTEC® (Enalapril Maleate, MSD) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome. Inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect fetal outcome adversely. Fetal exposure during the second and third trimesters ot pregnancy has been associated with fetal and neonatal morbidity and mortality.

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the fetus. Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support ot blood pressure and renal perfusion with the administration ot fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arteriosus have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

Nursing Mothers: Milk in lactating rats contains radioactivity tollowing administration of ^{14}C enalapril maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Satety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for satety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASDTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

HYPERTENSION: The most trequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Dther adverse experiences occurring in greater than 1% ot patients treated with VASDTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

HEART FAILURE: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% ot patients treated with VASDTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% ot patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Cardiac arrest; myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); cardiac arrest; pulmonary embolism and infarction; rhythm disturbances; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis.

Nervous/Psychiatric: Depression, contusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIDNS and DDSAGE AND ADMINISTRATIDN).

Respiratory: Bronchospasm, rhinorrhea, asthma, upper respiratory infection.

Skin: Herpes zoster, pruritus, alopecia, flushing, photosensitivity.

Other: Vasculitis, muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthralgia; an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared atter discontinuation ot therapy.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause tor discontinuation ot therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings:

Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIDNS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation ot VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% ot patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% ot patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g % and 1.0 vol %, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause ot anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases ot neutropenia, thrombocytopenia, and bone marrow depression have been reported.

Liver Function Tests: Elevations ot liver enzymes and/or serum bilirubin have occurred.

Dosage and Administration: *Hypertension:* In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, it possible, be discontinued for two to three days before beginning therapy with VASDTEC to reduce the likelihood of hypotension. (See WARNINGS.) It the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed.

It the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision tor at least two hours and until blood pressure has stabilized tor at least an additional hour. (See WARNINGS and PRECAUTIDNS, *Drug Interactions.*)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval. In such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASDTEC alone, a diuretic may be added.

Concomitant administration ot VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases ot serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment: The usual dose ot enalapril is recommended tor patients with a creatinine clearance >30 mL/min (serum creatinine ot up to approximately 3 mg/dL). For patients with creatinine clearance ≤30 mL/min (serum creatinine ≥3 mg/dL), the first dose is 2.5 mg once daily. The dosage may be titrated upward until blood pressure is controlled or to a maximum ot 40 mg daily.

Heart Failure: VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASDTEC, the patient should be observed under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, *Drug Interactions.*) It possible, the dose of the diuretic should be reduced, which may diminish the likelihood ot hypotension. The appearance of hypotension after the initial dose of VASOTEC does not preclude subsequent caretul dose titration with the drug, following effective management of the hypotension. The usual therapeutic dosing range tor the treatment of heart failure is 5 to 20 mg daily given in two divided doses. The maximum daily dose is 40 mg. Once-daily dosing has been effective in a controlled study, but nearly all patients in this study were given 40 mg, the maximum recommended daily dose, and there has been much more experience with twice-daily dosing. In addition, in a placebo-controlled study which demonstrated reduced mortality in patients with severe heart failure (NYHA Class IV), patients were treated with 2.5 to 40 mg per day of VASOTEC, almost always administered in two divided doses. (See CLINICAL PHARMACDLDGY, *Pharmacodynamics and Clinical Effects.*) Dosage may be adjusted depending upon clinical or hemodynamic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia: In heart failure patients with hyponatremia (serum sodium < 130 mEq/L) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See DOSAGE AND ADMINISTRATION, *Heart Failure*, WARNINGS, and PRECAUTIONS, *Drug Interactions.*) The dose may be increased to 2.5 mg b.i.d., then 5 mg b.i.d. and higher as needed, usually at intervals of four days or more, if at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

For more detailed information, consult your MSD Representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486.

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